Sourav S Bhowmick

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School of Computer Science & Engineering (SCSE)
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Research Areas

Data management, human-data interaction, data analytics, network biology, technology-enabled adult learning.

Education

- **Nanyang Technological University** — Singapore
  Ph.D. Computer Engineering — *1997 - 2001*
- **Griffith University** — Queensland, Australia
  Master of Computing — *1995-1997*
- **Visvesvaraya Regional College of Engineering (VRCE)**[1] — Nagpur, India
  B.Engg Mechanical Engineering — *1989-1993*

Academic Positions

- **Nanyang Technological University** — Singapore
  Associate Professor — *October 2005 - present*
    - School of Computer Science & Engineering (SCSE)

- **Xidian University** — China
  Huashan Talent Visiting Professor — *March 2022 - February 2025*
    - School of Computer Science & Technology

- **Hong Kong Baptist University** — Hong Kong SAR
  Adjunct Associate Professor — *July 2021 - June 2023*
    - Department of Computer Science

- **Nanyang Technological University** — Singapore
  Assistant Professor — *June 2001 - Sept. 2005*
    - School of Computer Science & Engineering (SCSE)

- **Nanyang Technological University** — Singapore
  Singapore-MIT Alliance Fellow — *July 2005 - June 2013*
    - Computation and Systems Biology (CSB)

- **Fudan University** — Shanghai, China
  Senior Visiting Professor — *Jan 2013 - Dec 2013*
    - School of Computer Science

- **Massachusetts Institute of Technology (MIT)** — Cambridge, USA
  Visiting Associate Professor — *June 2007 - May 2013*
    - Department of Biological Engineering

Awards & Honours

Distinguished Senior PC Member Award (CODS-COMAD) 2024
Best Student Paper Award (ER) 2023
PVLDB Vol 16 Distinguished Reviewer Award 2023
Special CACM Issue Highlighting Cutting-edge Research & Innovation in East Asia & Oceania 2023
ACM SIGMOD 2023 Distinguished Associate Editor (AE) Award (Best of the Best) 2023
VLDB Journal Special Issue on Best of VLDB 2021 2023
SCSE Faculty Award 2022
Distinguished Associate Editors Award (VLDB) 2022
2021 ACM SIGMOD Research Highlight Award 2022
Best Research Paper Award (VLDB) 2021
ACM SIGMOD 2021 Distinguished Associate Editor (AE) Award 2021
 ACM Distinguished Member (Fewer than 750 of the 100,000 ACM members have been given this
this recognition) 2020
Distinguished PVLDB2020 Review Board Member 2020
Nominated for Nanyang Education Award (SCSE) 2020
20-Years Long Service Award (SCSE, NTU) 2020
Best of DASFAA 2019
Best Research Wall Panel Award (SCSE, NTU) 2018
VLDB Service Award (From VLDB Endowment) 2018
15-Years Long Service Award (SCSE, NTU) 2016
Nominated for the Best Paper Award (ACM SIGMOD) 2015
10-Years Long Service Award (SCSE, NTU) 2012
Best of DASFAA 2012
Best Paper Award (ACM BCB) 2011
Finalist of ACM Multimedia Grand Challenge (ACM MM) 2010
Nominated for Best Paper Award (ACM Workshop on Social Media) 2009
Gold Award (URECA) 2006
Nominated for the Excellence in Teaching Award (SCE) 2005
Certificate of Excellence Award (DEXA) 2005
Best Interdisciplinary Paper Award (ACM CIKM) 2004
Best of ER 2004
Nominated for the Excellence in Teaching Award (SCE) 2004
Lecturer of the Year Award (SCE) 2003
Nominated for the Excellence in Teaching Award (SCE) 2003
Outstanding Band in SCE (Top 5.5%) 2003
Outstanding Band in SCE (Top 5.5%) 2002

Real-world Users of Selected Research (Practical Impact)

- *[DARE project]* CLOSET, a state-of-the-art comprehensive COI detection and management system has been deployed in more than 20 venues including premium conferences such as SIGMOD, VLDB, and LICS (2020 - present). It is also interfaced with Microsoft's CMT. CLOSET has influenced changes to longstanding COI policies and management in premium data management venues.

- *[TRUSS project]* A suite of technology-enabled database education systems (e.g., NEURON, LANTERN, ARENA) has been used by hundreds of learners (end users) taking database system courses in more

than 30 institutions (2019-present). Surveys of learners show that they benefit from them in learning relational query processing.

- gRNA and Hyperthesis, XML querying and workflow systems for bioinformatics, were part of the product of *HeliXense Pte Ltd*, Singapore (2002 - 2006).

Editorial Boards

Active

- **SIGMOD Record**
  Information Director   *2021 - present*
  – ACM SIGMOD

- **Distributed and Parallel Databases (DAPD) Journal**
  Survey Co-Editor   *2021 - present*
  – Springer-Verlag

Past

- **IEEE Transactions on Knowledge & Data Engineering (TKDE)**
  Associate Editor   *2019 - 2023*
  – IEEE Computer Society

- **Proceedings of the ACM on Management of Data (PACMMOD)**
  Associate Editor   *Apr 2022 -Apr 2023*
  – ACM

- **Proceedings of the VLDB Endowment (PVLDB)**
  Associate Editor   *Apr 2021 -Aug 2022*
  – VLDB Endowment

- **SIGMOD Record**
  Associate Information Director   *2019 - 2021*
  – ACM SIGMOD

- **Distributed and Parallel Databases (DAPD) Journal**
  Editorial Board   *2012 - 2021*
  – Springer-Verlag

- **Journal of the Association for Information Science & Technology (JASIST)**
  Editorial Board   *2016 - 2021*
  – Wiley

- **Int. Journal Trans. on Large-Scale Data & Knowledge Centered Systems (TLDKS)**
  Editorial Board   *2014*
  – Special Issue on Advanced Techniques for Cloud Data Management
  – Springer-Verlag

- **Int. Journal of Data Mining, Modelling & Management (IJDMMM)**
  Editorial Board   *2008 - 2017*
  – Inderscience

- **International Journal of Digital Information Management (JDIM)**
  Editorial Board *2004 - 2016*
- **International Journal of Data Warehousing and Mining**
  Editorial Review Board *2008 - 2016*
  - Idea Publishing Group
- **Data and Knowledge Engineering (DKE) Journal**
  Guest Editor *2008*
  - Elsevier Science
  - Special Issue on XML Schema and Data Management, 65(2)
- **Data and Knowledge Engineering (DKE) Journal**
  Guest Editor *2007*
  - Elsevier Science
  - Special Issue on Web Data and Schema Management, 60(2)
- **Data and Knowledge Engineering (DKE) Journal**
  Guest Editor *2005*
  - Elsevier Science
  - Special Issue on Biological Data Management, 53(1)

Steering Committee/Advisory Board Member

- **Board of Trustees of the VLDB Endowment**
  Trustee *2024-2029*
- **Joint DB Task Force on Reviewing Processes**
  Co-chair *2023-present*
- **SIGMOD Executive Committee**
  Member *2021 - present*
- **PVLDB Advisory Board**
  Regular Member *2021 - present*
- **Diversity and Inclusion in Database Conference Venues**
  Co-Lead *2021 - 2023*
- **JASIST Editorial Advisory Board**
  Regular Member *2021 - present*
- **International Conference on Database Systems for Advanced Applications**
  Member *2018 - 2024*

Award Committees

- **SIGMOD Awards Committee**
  Member *2024-2028*
- **Best Paper Award Committee** CODS-COMAD
  Member *2024*

Current Research Projects

- *Data Management & Analytics*

  - `HINT`: Towards Human Interaction with Network Data
  - `GREASE`: Graph Querying and Analytics on a Single Machine
  - `ARTIST`: Abstract Art-Inspired Visualization of Data
  - `DARE`: Data-driven Review Management
  - `PIANO`: Psychology-Informed Data-centric Computing

- *Technology-enabled Learning*

  - `TRUSS`:Technology-enabled Learning of Query Processing

- *Network Biology*

  - `INGOT`: Towards *In Silico* Signaling Network-driven Combination Therapy

Invited Talks and Tutorials

1. **TU Eindhoven**   Eindhoven, The Netherlands
   Invited Talk   *Jan 2024*
   - What If Leonardo Was a Database Educator?

2. **Xidian University**   Xi'an, China
   Invited Talk   *Dec 2023*
   - To Draw is Human: Toward No-Code Subgraph Search.

3. **CCS International Symposium**   Tsukuba, Japan
   Invited Talk   *Oct 2023*
   - To Draw is Human: Toward No-Code Subgraph Search.

4. **Singapore Data Science Consortium**   Singapore
   Invited Talk   *July 2023*
   - Data-driven Management of COI in Peer Review Venues: Data Science in the Real World.

5. **Data Systems Education Workshop (Co-located with SIGMOD)**   Seattle, USA
   Keynote Talk   *June 2023*
   - Human Learners of Relational Query Processing: Who Cares?

6. **POSTECH**   Pohang, South Korea
   Invited Talk   *November 2022*
   - *"Tell Me and I Forget, Teach Me and I May Remember, Involve Me and I Learn"*: Towards Technology-enabled Learning of Relational Query Processing.

7. **Hong Kong University of Science & Technology (HKUST)**   Virtual
   Invited Talk   *November 2022*
   - To Draw is Human: Towards Usable Visual Subgraph Search.

8. **48th ACM SIGMOD International Conference on Management of Data** Chicago, USA
   Tutorial   *June 2022*

- Data-driven Visual Query Interfaces for Graphs: Past, Present, and (Near) Future.

9. **Hunan University, China** — Virtual
   Invited Talk — *March 2022*
   - We Don't Need No Education: From Building for Coders to Building for Users.

10. **POSTECH** — Virtual
    Invited Talk — *Jul 2021*
    - TED Learn: Towards Technology-Enabled Database Education.

11. **The Dutch Seminar on Data Systems Design** — Virtual
    Invited Talk — *Apr 2021*
    - TED Learn: Towards Technology-Enabled Database Education.

12. **Future of Adult Learning Research Symposium (FoALR)** — Singapore
    Invited Talk — *Nov 2019*
    - KANDINSKY: Abstract Art Meets YouTube Discussion Visualization for Online Learning.

13. **School of Cyber Engineering, Xidian University** — Xi'an, China
    Invited Talk — *Sept 2019*
    - Visual > Text.

14. **Singaporean Researcher Global Summit** — Singapore
    Invited Talk — *Aug 2019*
    - Learning to Say No!

15. **GRADES-NDA Workshop (Co-located with SIGMOD)** — Amsterdam, The Netherlands
    Keynote Talk — *June 2019*
    - We Don't Need No Education: From Building for Coders to Building for Users.

16. **Big Data & AI Workshop, University of Hong Kong** — Hong Kong
    Invited Talk — *Apr 2019*
    - Don't Make Me Learn: From Building for Coders to Building for Users.

17. **Pohang University of Science and Technology (POSTECH)** — Pohang, South Korea
    Invited Talk — *Mar 2019*
    - Visual > Text.

18. **37th International Conference on Conceptual Modeling (ER)** — Xi'an, China
    Tutorial — *Oct 2018*
    - Visual Querying on Graphs: Models and Techniques.

19. **Data Science & Blockchain Workshop (in conjunction with ER)** — Xi'an, China
    Invited Talk — *Oct 2018*
    - Network Analytics Meets Drug Combination Discovery.

20. **School of Cyber Engineering, Xidian University** — Xi'an, China
    Invited Talk — *Oct 2018*
    - Data Management in the AI World: An Area Whose Time has Come and Gone?

21. **Artificial Intelligence Research Center (AIRC)** — Tokyo, Japan
    Invited Talk — *Jul 2018*
    - Graph Querying is Dead, Long Live (Visual) Graph Querying!

22. **Pohang University of Science and Technology (POSTECH)** — Pohang, South Korea
    Invited Talk — *Jul 2018*
    - Graph Querying is Dead, Long Live (Visual) Graph Querying!

23. **Hong Kong Baptist University** — Hong Kong
Invited Talk — *May 2018*
- Data Management in the AI World: An Area Whose Time has Come and Gone?

24. **43rd International Conference on Very Large Data Bases (VLDB)** — Munich, Germany
Tutorial — *Aug 2017*
- Summarizing Static and Dynamic Big Graphs.

25. **Pohang University of Science and Technology (POSTECH)** — Pohang, South Korea
Invited Talk — *Aug 2017*
- Graph Summarization: What Makes a Good Summary?

26. **43rd ACM SIGMOD International Conference on Management of Data** — Chicago, USA
Tutorial — *May 2017*
- Graph Querying Meets HCI: State of the Art and Future Directions.

27. **Oracle** — Singapore
Invited Talk — *Mar 2017*
- To Invent or To Innovate?: The Role of Academic Research.

28. **IEEE International Conference on Knowledge Engineering & Applications** — Singapore
Keynote Talk — *Sept 2016*
- Network Analytics Meets Drug Combination Discovery.

29. **Hong Kong Baptist University** — Hong Kong
Invited Talk — *May 2016*
- Towards In Silico Network-driven Combination Therapy: A ~~Big~~ Small Data Problem.

30. **University of Macau** — Macau
Invited Talk — *Nov 2015*
- HumanDB: Towards Bridging the Chasm Between Data Management and HCI.

31. **Kyoto University** — Kyoto, Japan
Invited Talk — *Jul 2015*
- HCI-aware Data Management: Towards Bridging the Chasm Between Data Management and HCI.

32. **Eindhoven University of Technology (TU/e)** — Eindhoven, The Netherlands
Invited Talk — *June 2015*
- HCI-aware Data Management: Towards Bridging the Chasm Between Data Management and HCI.

33. **Pohang University of Science and Technology (POSTECH)** — Pohang, South Korea
Invited Talk — *Nov 2014*
- Towards Bridging the Chasm Between Graph Data Management and HCI.

34. **25th Int. Conf. on Database & Expert Systems Applications (DEXA)** — Munich, Germany
Keynote Talk — *Sept 2014*
- DB $\bowtie$ HCI: Towards Bridging the Chasm Between Graph Data Management and HCI.

35. **1st International Conf. on Big Data & Smart Computing (BigComp)** — Bangkok, Thailand
Invited Talk — *Jan 2014*
- INGOT: Towards Network-driven In Silico Combination Therapy.

36. **Dept. of Social Informatics, Kyoto University** — Kyoto, Japan
Invited Talk — *Jul 2013*
- Adventures with Social Images: The SONAR Experience.

37. Kyoto University — Kyoto, Japan
Invited Talk — *Jul 2013*
- Towards In Silico Network-driven Combination Therapy: A ~~Big~~ Small Data Problem.

38. 5th Int. Workshop with Mentors for Young Researchers (iDB) — Sapporo, Japan
Invited Tutorial — *Jul 2013*
- Managing Social Image Tags: Methods and Applications.

39. International Symposium of Health Systems Complexity — Singapore
Invited Talk — *Jul 2013*
- Towards In Silico Network-driven Combination Therapy: A ~~Big~~ Small Data Problem.

40. 2nd Health Systems Complexity Workshop — Singapore
Invited Talk — *Mar 2013*
- Towards In Silico Network-driven Combination Therapy: A Computational and Systems Biology-based Approach.

41. 8th Int. Conf. on Advanced Data Mining & Applications (ADMA) — Nanjing, China
Tutorial — *Dec 2012*
- Clustering and Summarizing Biological Networks: The state-of-the art.

42. 17th Int. Conf. on Database Systems for Advanced Applications — Busan, South Korea
Tutorial — *Apr 2012*
- Storing, Querying, Summarizing and Comparing Molecular Networks: The State-of-the-Art.

43. International Workshop on Advanced Data Management (ADM) — Shanghai, China
Invited Talk — *Dec 2011*
- VIAGRA: Towards Visual Interaction-Aware Graph Querying Framework.

44. 3rd Int. Workshop with Mentors for Young Researchers (iDB) — Kyoto, Japan
Invited Talk — *Aug 2011*
- Being David in Data Management World of Goliaths.

45. 15th Pacific-Asia Conf. on Know. Discovery & Data Mining (PAKDD) — Shenzhen, China
Tutorial — *May 2011*
- Social Image Tags: From Motivation to Mining.

46. 16th Int. Conf. on Database Systems for Advanced Applications — Hong Kong
Tutorial — *Apr 2011*
- Managing Social Image Tags: From Motivation to Applications.

47. Dept of Comp. Science, Missouri University of Science and Technology — Rolla, USA
Invited Talk — *June 2010*
- GBLENDER: Visual Graph Query Formulation Meets Query Processing.

48. Waseda University — Japan
Invited Talk — *Nov 2009*
- Blog Cascade Affinity.

49. 13th Pacific-Asia Conf. on Know. Discovery & Data Mining — Bangkok, Thailand
Tutorial — *Apr 2009*
- Mining Evolution of Complex-Structured Data.

50. Joint International Conf. on APWeb/WAIM — Suzhou, China
Tutorial — *Apr 2009*
- Mining Evolution of Complex-Structured Data.

51. **9th International Conf. on Web-Age Information Management**   Zhangjiajie, China
Tutorial   *Jul 2008*
- Managing Changes to XML Data: The State-Of-The-Art.

52. **Kyoto University**   Kyoto, Japan
Invited Talk   *Jul 2008*
- XBlend: Visual XML Query Formulation Meets Query Processing.

53. **10th Asia-Pacific Web Conference (APWeb)**   Shenyang, China
Tutorial   *Apr 2008*
- Web Evolution Management: Detection, Monitoring, and Mining.

54. **Kyoto University**   Kyoto, Japan
Invited Talk   *June 2007*
- Towards Da Vinci's Notebook: Empowering Scientists to Explore Data.

55. **Kyoto University**   Kyoto, Japan
Invited Talk   *Nov 2006*
- XANADUE: Scalable XML Change Detection in Relational Databases.

56. **25th International Conference on Conceptual Modelling (ER)**   Tucson, USA
Tutorial   *Nov 2006*
- Web Change Management and Delta Mining: Opportunities and Solutions.

57. **Shanghai-Jiatong University**   Shanghai, China
Invited Talk   *May 2006*
- Towards Da Vinci's Notebook: Empowering Scientists to Explore Data.

58. **Tsinghua University**   Beijing, China
Invited Talk   *May 2005*
- One Size Does Not Fit All: Research Challenges in Bioimaging Data Management.

59. **Kyoto University**   Kyoto, Japan
Invited Talk   *Apr 2005*
- Towards Privacy Preserving Data Integration.

60. **The University of Queensland**   Brisbane, Australia
Invited Talk   *June 2000*
- Detecting and Representing Page-Level Relevant Web Deltas in WHOWEDA.

61. **The University of South Australia**   Adelaide, Australia
Invited Talk   *Apr 2000*
- Detecting and Representing Page-Level Relevant Web Deltas Using Web Join.

Publication Statistics

- Total number of citations: **6135** (Google Scholar), h-index: **39** (as of March 2024).
- Number of journal papers: 79
- Number of conference papers: 196
- Number of workshop papers: 18
- Number of abstracts/extended abstracts: 11

- Number of books: 4
- Number of book chapters: 7
- Number of proceedings: 7

Refereed Journals

1. **Data-driven PC-chair-in-the-loop Formation of Program Committees: An EDBT 2023 Experience.** Sourav S Bhowmick, Katja Hose. *SIGMOD Record*, 53(2), ACM, June 2024.

2. **Diversity, Equity and Inclusion Activities in Database Conferences: A 2023 Report.** Sihem Amer-Yahia, Divyakant Agrawal, Yael Amsterdamer, Sourav S. Bhowmick, Renata Borovica-Gajic, Jesús Camacho-Rodríguez, Jinli Cao, Barbara Catania, Panos K. Chrysanthis, Carlo Curino, Amr El Abbadi, Avrilia Floratou, Juliana Freire, Stratos Idreos, Vana Kalogeraki, Sujaya Maiyya, Alexandra Meliou, Madhulika Mohanty, Fatma Özcan, Liat Peterfreund, Soror Sahri, Sana Sellami, Roee Shraga, Utku Sirin, Wang-Chiew Tan, Bhavani Thuraisingham, Yuanyuan Tian, Genoveva Vargas-Solar, Meihui Zhang, Wenjie Zhang. *SIGMOD Record*, 53(2), ACM, June 2024.

3. **Peer-Reviewing Processes and Incentives: Data Management Community Survey Results.** Alexandra Meliou, Sourav S. Bhowmick, Karl Aberer, Divyakant Agrawal, Angela Bonifati, Vanessa Braganholo, Floris Geerts, Wolfgang Lehner, Divesh Srivastava. *SIGMOD Record*, 52(4), ACM, December 2023.

4. **DKWS: A Distributed System for Keyword Search on Massive Graphs.** Jiaxin Jiang, Byron Choi, Huang Xin, Jianliang Xu, Sourav S Bhowmick. *IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)*, IEEE CS, August, 2023.

5. **PANE: Scalable and Effective Attributed Network Embedding.** Renchi Yang, ieming Shi, Xiaokui Xiao, Yin Yang, Sourav S. Bhowmick, Juncheng Liu. *The VLDB Journal*, Springer-Verlag, 32(6), August 2023 **(Invited, Best Papers of VLDB 2021)**.

6. **CLOSET: Data-Driven COI Detection and Management in Peer-Review Venues.** Sourav S Bhowmick. *Communication of the ACM (CACM)*, 66(7), ACM, July 2023 **(Special section highlighting cutting-edge research and innovation emerging from East Asia and Oceania)**.

7. **To Draw Is Human: Toward No-Code Subgraph Search.** Sourav S Bhowmick, Byron Choi. *Communication of the ACM (CACM)*, 66(7), ACM, July 2023 **(Special section highlighting cutting-edge research and innovation emerging from East Asia and Oceania)**.

8. **Diversity, Equity and Inclusion Activities in Database Conferences: A 2022 Report.** Sihem Amer-Yahia, Divyakant Agrawal, Yael Amsterdamer, Sourav S. Bhowmick, Angela Bonifati, Renata Borovica-Gajic, Jesús Camacho-Rodríguez, Barbara Catania, Panos K. Chrysanthis, Carlo Curino, Jérôme Darmont, Gillian Dobbie, Amr El Abbadi, Avrilia Floratou, Juliana Freire, Alekh Jindal, Vana Kalogeraki, Sujaya Maiyya, Alexandra Meliou, Madhulika Mohanty, Behrooz Omidvar-Tehrani, Fatma Özcan, Liat Peterfreund, Wenny Rahayu, Shazia Sadiq, Sana Sellami, Utku Sirin, Wang-Chiew Tan, Bhavani Thuraisingham, Yuanyuan Tian, Pınar Tözün, Genoveva Vargas-Solar, Neeraja Yadwadkar, Victor Zakhary, Meihui Zhang. *SIGMOD Record*, 52(2), ACM, June 2023.

9. **PIANO: Influence Maximization Meets Deep Reinforcement Learning.** Hui Li, Mengting Xu, Sourav S Bhowmick, Shafiq Joty, Changsheng Sun, Jiangtao Cui. *IEEE Transactions on Computational Social Systems (IEEE TCSS)*, 10(3), IEEE CS, June 2023.

10. **Meta-analytic Connectivity Modelling of Functional Magnetic Resonance Imaging Studies in Autism Spectrum Disorders.** Alicia M. Goodwill, Li Tong Low, Peter T. Fox, P. Mickle Fox, Kenneth K. Poon, Sourav S. Bhowmick, S. H. Annabel Chen. *Brain Imaging and Behaviour*, Springer, 2023.

11. **How Connected Are Our Conference Review Boards?** Sourav S Bhowmick. *SIGMOD Record*, ACM, 51(4), December 2022.

12. **Towards Technology-Enabled Learning of Relational Query Processing.** Sourav S Bhowmick, Hui Li. *IEEE Data Engineering Bulletin*, IEEE CS, September 2022 (Invited).

13. **Towards Automatic Support for Leading Court Debates: A Novel Task Proposal & Effective Approach of Judicial Question Generation.** Conghui Zhu, Changzhen Ji, Yating Zhang, Xiaozhong Liu, Adam Jatowt, Sourav S Bhowmick, Changlong Sun, Tiejun Zhao. *Neural Computing and Applications (NCAA)*, 34(19), Springer, August 2022.

14. **Diversity and Inclusion Activities in Database Conferences: A 2021 Report.** Sihem Amer-Yahia, Yael Amsterdamer, Sourav S. Bhowmick, Angela Bonifati, Philippe Bonnet, Renata Borovica-Gajic, Barbara Catania, Tania Cerquitelli, Silvia Chiusano, Panos K. Chrysanthis, Carlo Curino, Jérôme Darmont, Amr El Abbadi, Avrilia Floratou, Juliana Freire, Alekh Jindal, Vana Kalogeraki, Georgia Koutrika, Arun Kumar, Sujaya Maiyya, Alexandra Meliou, Madhulika Mohanty, Felix Naumann, Nele Sina Noack, Fatma Özcan, Liat Peterfreund, Wenny Rahayu, Wang-Chiew Tan, Yuanyuan Tian, Pınar Tözün, Genoveva Vargas-Solar, Neeraja Yadwadkar, Meihui Zhang. *SIGMOD Record*, 51(2), ACM, June 2022.

15. **FLAG: Towards Graph Query Autocompletion for Large Graphs.** Peipei Yi, Jianping Li, Byron Choi, Sourav S. Bhowmick, Jianliang Xu. *Data Science and Engineering (DSE)*, 7(2), Springer-Verlag, May 2022.

16. **GFocus: User Focus-based Graph Query Autocompletion.** Peipei Yi, Byron Choi, Zhewei Zhang, Sourav S Bhowmick, Jianliang Xu. *IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)*, 34(4), IEEE CS, April 2022.

17. **No PANE, No Gain: Scaling Attributed Network Embedding in a Single Server.** Renchi Yang, Jieming Shi, Xiaokui Xiao, Yin Yang, Sourav S Bhowmick, Juncheng Liu. *SIGMOD Record*, 51(1), ACM SIGMOD, March 2022 (2021 ACM SIGMOD Research Highlights Award Paper).

18. **Efficient Shapelet Discovery for Time Series Classification.** Guozhong Li, Byron Choi, Jianliang Xu, Sourav S Bhowmick, Kwok-Pan Chun, Grace Wong. *IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)*, 34(3), IEEE CS, March 2022.

19. **A Generic Ontology Framework for Indexing Keyword Search on Massive Graphs.** Jiaxin Jiang, Byron Choi, Jianliang Xu, Sourav S Bhowmick. *IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)*, 33(6), IEEE CS, June 2021.

20. **SURGE: Continuous Detection of Bursty Regions Over a Stream of Spatial Objects.** Kaiyu Feng, Guo Tao, Gao Cong, Sourav S Bhowmick, Shui Ma. *IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)*, 32(11), IEEE CS, November 2020.

21. **FERRARI: An Efficient Framework for Visual Exploratory Subgraph Search in Graph Databases.** Chaohui Wang, Miao Xie, Sourav S Bhowmick, Byron Choi, Xiaokui Xiao, Shuigeng Zhou. *The VLDB Journal*, 29(5), Springer-Verlag, September 2020.

22. **FROST: Movement History-conscious Facility Relocation.** Meng Wang, Hui Li, Jiangtao Cui, Sourav S Bhowmick, Ping Lui. *ACM Transactions on Intelligent Systems and Technology (ACM TIST)*, 11(1), pp. 1-26, ACM, January 2020.

23. **Mapping Entity Sets in News Archives across Time.** Yijun Duan, Adam Jatowt, Sourav S. Bhowmick, Masatoshi Yoshikawa. *Data Science and Engineering (DSE)*, 4(3), Springer-Verlag, September 2019 **(Invited, Best Papers of DASFAA 2019)**.

24. **On-Demand Recent Personal Tweets Summarization on Mobile Devices.** Jin Yao Chin, Sourav S Bhowmick, Adam Jatowt. *Journal of the Association for Information Science and Technology (JASIST)*, 70(6), Wiley-Blackwell Publisher, June 2019.

25. **DANTE: Data and Information Management Research at Nanyang Technological University.** Sourav S Bhowmick, Xiaokui Xiao. *SIGMOD Record*, 47(2), ACM Press, June 2018 **(Invited)**.

26. **TROVE: A User-friendly Tool for Visualizing and Analyzing Cancer Hallmarks in Signaling Networks.** Huey Eng Chua, Sourav S Bhowmick, Jie Zheng. *Bioinformatics*, 34(2), Oxford Univ Press, January 2018.

27. **Synergistic Target Combination Prediction From Curated Signaling Networks: Machine Learning Meets Systems Biology and Pharmacology.** Huey Eng Chua, Sourav S Bhowmick, Lisa Tucker-Kellogg. *Methods*, 129, Elsevier Science, 2017 **(Invited)**.

28. **VISUAL: Simulation of Visual Subgraph Query Formulation To Enable Automated Performance Benchmarking.** Sourav S Bhowmick, Huey Eng Chua, Byron Choi, Curtis Dyreson. *IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)*, 29(8), 1765–1778, IEEE CS, August 2017.

29. **AutoG: A Visual Query Autocompletion Framework for Graph Databases.** Peipei Yi, Byron Choi, Sourav S Bhowmick, Jianliang Xu. *The VLDB Journal*, 26(3), 347-372, Springer-Verlag, June 2017.

30. **PANDA: Towards Partial Topology-based Search on Large Networks in a Single Machine.** Miao Xie, Sourav S Bhowmick, Gao Cong, Qing Wang. *The VLDB Journal*, 26(2), 203-228, Springer-Verlag, April 2017.

31. **PINOCCHIO: Probabilistic Influence-based Location Selection over Moving Objects.** Meng Wang, Hui Li, Jiangtao Cui, Ke Deng, Sourav S Bhowmick, Zhenhua Dong. *IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)*, 28(11), 3068-3082, IEEE CS, November 2016.

32. **The Past is Not a Foreign Country: Detecting Semantically Similar Terms across Time.** Yating Zhang, Adam Jatowt, Sourav S Bhowmick, Katsumi Tanaka. *IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)*, 28(10), 2793-2807, IEEE CS, October 2016.

33. **Clustering and Summarizing Protein-Protein Interaction Networks: A Survey.** Sourav S Bhowmick, Boon Siew Seah. *IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)*, 28(3), 638-658, IEEE CS, March 2016.

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54. **PICASSO: Exploratory Search of Connected Subgraph Substructures in Graph Databases.** Kai Huang, Sourav S Bhowmick, Shuigeng Zhou, Byron Choi. *In Proceedings of 43rd International Conference on Very Large Data Bases (VLDB 2017)*, Munich, Germany, Aug-Sept 2017 (Demo).

55. **Summarizing Static and Dynamic Big Graphs.** Arijit Khan, Sourav S Bhowmick, Francesco Bonchi. *In Proceedings of 43rd International Conference on Very Large Data Bases (VLDB 2017)*, Munich, Germany, Aug-Sept 2017 (Tutorial).

56. **TINTIN: Exploiting Target Features for Signaling Network Similarity Computation and Ranking.** Huey-Eng Chua, Sourav S Bhowmick, L Tucker-Kellogg. *In Proceedings of 8th ACM Conference on Bioinformatics, Computational Biology and Health Informatics (ACM BCB 2017)*, ACM Press, Boston, USA, August 2017.

57. **TOTEM: Personal Tweets Summarization on Mobile Devices.** Jin Yao Chin, Sourav S Bhowmick, Adam Jatowt. *In Proceedings of 40th international ACM SIGIR conference on Research and Development in Information Retrieval (ACM SIGIR 2017)*, Tokyo, Japan, Aug 2017 (Demo).

58. **ASTERIX: Ambiguity and Missing Element-Aware XML Keyword Search Engine.** Ba Quan Truong, Sourav S Bhowmick, Curtis Dyreson, Hong Jing Khok. *In Proceedings of 40th international ACM SIGIR conference on Research and Development in Information Retrieval (ACM SIGIR 2017)*, Tokyo, Japan, Aug 2017 (Demo).

59. **Plug-and-Play Queries for Temporal Data Sockets.** Curtis Dyreson, Sourav S Bhowmick. *In Proceedings of the 12th International Conference on Flexible Query Answering Systems (FQAS 2017)*, June 2017.

60. **Graph Querying Meets HCI: State of the Art and Future Directions.** Sourav S Bhowmick, Byron Choi, Chengkai Li. *In Proceedings of 43rd ACM SIGMOD International Conference on Management of Data (ACM SIGMOD 2017)*, ACM Press, Chicago, USA, May 2017 (Tutorial).

61. **FacetsViewer: A Tool for Multi-faceted Decomposition of Complex Networks.** Boon Siew Seah, Sourav S Bhowmick, Huey-Eng Chua, Mengxuan Chen, C Forbes Dewey, Jr. *In Proceedings of 16th IEEE International Conference on Data Mining (IEEE ICDM 2016)*, IEEE CS, Barcelona, Spain, December 2016 (Demo).

62. **TENET: A Machine Learning-based System for Target Characterization in Signaling Networks.** Huey-Eng Chua, Sourav S Bhowmick, Lisa Tucker-Kellogg, C Forbes Dewey, Jr. *In Proceedings of 16th IEEE International Conference on Data Mining (IEEE ICDM 2016)*, IEEE CS, Barcelona, Spain, December 2016 (Demo).

63. **TAPESTRY: Network-centric Target Prioritization in Disease-related Signaling Networks.** Huey-Eng Chua, Sourav S Bhowmick, Zheng Jie, L Tucker-Kellogg. *In Proceedings of 7th ACM Conference on Bioinformatics, Computational Biology and Health Informatics (ACM BCB 2016)*, ACM Press, Seattle, USA, October 2016.

64. **Predictive Modeling of Drug Effects on Signaling Pathways in Diverse Cancer Cell Lines.** Shital K Mishra, Sourav S Bhowmick, Huey-Eng Chua, Zheng Jie. *In Proceedings of 7th ACM Conference on Bioinformatics, Computational Biology and Health Informatics (ACM BCB 2016)*, ACM Press, Seattle, USA, October 2016.

65. **Data-driven Visual Graph Query Interface Construction and Maintenance: Challenges and Opportunities.** Sourav S Bhowmick, Byron Choi, Curtis Dyreson. *In Proceedings of 42nd International Conference on Very Large Data Bases (VLDB 2016)*, 9(12), New Delhi, India, September 2016 (`Acceptance rate: 16%`).

66. **AutoG: A Visual Query Autocompletion Framework for Graph Databases.** Peipei Yi, Byron Choi, Sourav S Bhowmick, Jianliang Xu. *In Proceedings of 42nd International Conference on Very Large Data Bases (VLDB 2016)*, 9(13), New Delhi, India, September 2016 (Demo paper) (`Acceptance rate: 37/103`).

67. **DualSim: Parallel Subgraph Enumeration in a Massive Graph on a Single Machine.** Hyeonji Kim, JuneYoung Lee, Sourav S Bhowmick, Wook-Shin Han, Jeong Hoon Lee, Seongyun Ko, Moath Jarrah. *In Proceedings of 42nd ACM SIGMOD International Conference on Management of Data (ACM SIGMOD 2016)*, ACM Press, San Francisco, USA, June-July 2016 (`Acceptance rate: 20%`).

68. **Towards Best Region Search for Data Exploration.** Kaiyu Feng, Gao Cong, Sourav S Bhowmick, Wen-Chih Peng, Chunyan Miao. *In Proceedings of 42nd ACM SIGMOD International Conference on Management of Data (ACM SIGMOD 2016)*, ACM Press, San Francisco, USA, June-July 2016 (`Acceptance rate: 20%`).

69. **Interruption-Sensitive Empty Result Feedback: Rethinking the Visual Query Feedback Paradigm for Semistructured Data.** Sourav S Bhowmick, Curtis Dyreson, Byron Choi, Min-Hwee Ang. *In Proceedings of the 24th ACM International Conference on Information and Knowledge Management (ACM CIKM 2015)*, ACM Press, 723-732, Melbourne, Australia, Oct 2015. (`Acceptance rate: 26%`)

70. **PRISM: Concept-preserving Summarization of Top-K Social Image Search Results.** Boon Siew Seah, Sourav S Bhowmick, Aixin Sun. *In Proceedings of 41st International Conference on Very Large Data Bases (VLDB 2015)*, 8(12): 1868-1879, Hawaii, USA, September 2015 (Demo paper) (`Acceptance rate: 49/150`).

71. **Virtual eXist-db: Liberating Hierarchical Queries from the Shackles of Access Path Dependence.** Curtis Dyreson, Sourav S Bhowmick, Ryan Grapp. *In Proceedings of 41st International Conference on Very Large Data Bases (VLDB 2015)*, 8(12): 1932-1943, Hawaii, USA, September 2015 (Demo paper).

72. ***Omnia Mutantur, Nihil Interit*: Connecting Past with Present by Finding Corresponding Terms across Time.** Yating Zhang, Adam Jatowt, Sourav S Bhowmick, Katsumi Tanaka. *In*

Proceedings of 53rd Annual Meeting of the Association for Computational Linguistics (ACL 2015), 645-655, Beijing, China, July 2015 (`Acceptance rate: 25%`).

73. GETREAL**: Towards Realistic Selection of Influence Maximization Strategies in Competitive Networks.** Hui Li, Sourav S Bhowmick, Jiangtao Cui, Yunjun Gao, Jianfeng Ma. *In Proceedings of 41st ACM SIGMOD International Conference on Management of Data (ACM SIGMOD 2015)*, ACM Press, 1525-1537, Melbourne, Australia, June 2015 (`Acceptance rate: 25.6%`) (Nomination for the best paper award).

74. **Asymmetric Structure-Preserving Subgraph Queries for Large Graphs.** Zhe Fan, Byron Choi, Jianliang Xu, Sourav S Bhowmick. *In the Proceedings of the 31st IEEE International Conference on Data Engineering (ICDE 2015)*, IEEE CS, 339-350, Seoul, Korea, April 2015 (`Acceptance rate: 25.2%`).

75. **DaVinci: Data-driven Visual Interface Construction for Subgraph Search in Graph Databases.** Jinbo Zhang, Sourav S Bhowmick, Hong H. Nguyen, Byron Choi, Feida Zhu. *In the Proceedings of the 31st IEEE International Conference on Data Engineering (ICDE 2015)*, IEEE CS, 1500-1503, Seoul, Korea, April 2015 (Demo).

76. **ViSual: An HCI-inspired Simulator of Blending Visual Subgraph Query Construction and Processing.** Sourav S Bhowmick, Huey-Eng Chua, Benji Thian, Byron Choi. *In the Proceedings of the 31st IEEE International Conference on Data Engineering (ICDE 2015)*, IEEE CS, 1480-1483, Seoul, Korea, April 2015 (Demo).

77. **PIGEON: Progress Indicator for Subgraph Queries.** Xiaojing Xie, Zhe Fan, Byron Choi, Peipei Yi, Sourav S Bhowmick, Shuigeng Zhou. *In the Proceedings of the 31st IEEE International Conference on Data Engineering (ICDE 2015)*, IEEE CS, 1492-1495, Seoul, Korea, April 2015 (Demo).

78. **One Feature Doesn't Fit All: Characterizing Topological Features of Targets in Signaling Networks.** Huey-Eng Chua, Sourav S Bhowmick, L Tucker-Kellogg. *In Proceedings of 5th ACM Conference on Bioinformatics, Computational Biology and Health Informatics (ACM BCB 2014)*, ACM Press, 426-435, Newport Beach, California, USA, Sept 2014.

79. **DB ⋈ HCI: Towards Bridging the Chasm Between Graph Data Management and HCI.** Sourav S Bhowmick. *In Proceedings of the 25th International Conference on Database and Expert Systems Applications (DEXA 2014)*, Springer-Verlag, 1-11, Munich, Germany, Sept, 2014 (**Keynote**).

80. **PRISM: Concept-preserving Social Image Search Results Summarization.** Boon-Siew Seah, Sourav S Bhowmick, Aixin Sun. *In Proceedings of 37th international ACM SIGIR conference on Research and Development in Information Retrieval (ACM SIGIR 2014)*, 737-746, Gold Coast, Australia, July 2014 (`Acceptance rate: 21%`).

81. **Querying Virtual Hierarchies using Virtual Prefix-Based Numbers.** Curtis Dyreson, Sourav S Bhowmick, Ryan Grapp. *In Proceedings of 40th ACM SIGMOD International Conference on Management of Data (ACM SIGMOD 2014)*, ACM Press, 791-802, Snowbird, Utah, USA, 2014 (`Acceptance rate: 25%`).

82. **In Search of Influential Event Organizers in Online Social Networks.** Kaiyu Feng, Gao Cong, Sourav S Bhowmick, Shuai Ma. *In Proceedings of 40th ACM SIGMOD International Conference on Management of Data (ACM SIGMOD 2014)*, 63-74, ACM Press, Snowbird, Utah, USA, 2014 (`Acceptance rate: 25%`).

83. **Summarizing Social Image Search Results.** Boon-Siew Seah, Sourav S Bhowmick, Aixin Sun. *In Proceedings of 23rd ACM International World Wide Web Conference (ACM WWW 2014)*, 369-370, Seoul, South Korea, 2014 (Poster) (`Acceptance rate: 91/566`).

84. **Why Not, WINE?** Sourav S Bhowmick, Aixin Sun, Ba Quan Truong. *In Proceedings of 23rd ACM International World Wide Web Conference (ACM WWW 2014)*, 83-86, Seoul, South Korea, 2014

(Demo) (`Acceptance rate: 28/84`).

85. **INGOT: Towards Network-driven In Silico Combination Therapy.** Sourav S. Bhowmick, Huey-Eng Chua, Jie Zheng. *Proceedings of the 1st International Conference on Big Data and Smart Computing (BigComp 2014),* 34-39, Bangkok, Thailand, January 2014 **(Invited paper)**.

86. **Why Not, WINE?: Towards Answering Why-Not Questions in Social Image Search.** Sourav S Bhowmick, Aixin Sun, Ba Quan Truong. *In Proceedings of 21st ACM International Conference on Multimedia (ACM MM 2013)*, ACM Press, 917-926, Barcelona, Spain, Oct 2013 (`Acceptance rate: 20%`).

87. **MESSIAH: Missing Element-Conscious SLCA Nodes Search in XML Data.** Ba Quan Truong, Sourav S Bhowmick, Curtis Dyreson, Aixin Sun. *In Proceedings of 39th ACM SIGMOD International Conference on Management of Data (ACM SIGMOD 2013)*, ACM Press, 37-48, New York City, USA, 2013 (`Acceptance rate:20%`).

88. **QUBLE: Blending Visual Subgraph Query Formulation with Query Processing on Large Networks.** Ho Hoang Hung, Sourav S Bhowmick, Ba Quan Truong, Byron Choi, Shuigeng Zhou. *In Proceedings of 39th ACM SIGMOD International Conference on Management of Data (ACM SIGMOD 2013)*, ACM Press, 1097-1100, New York City, USA, 2013 (Demo).

89. **MUSTBLEND: Blending Visual Multi-Source Twig Query Formulation and Query Processing in RDBMS.** Ba Quan Truong, Sourav S Bhowmick. *In Proceedings of 18th International Conference on Database Systems for Advanced Applications (DASFAA 2013)*, Springer Verlag, 228-243, Wuhan, China, April 2013. (`Acceptance rate: < 25%`)

90. **CINEMA: Conformity-Aware Greedy Algorithm for Influence Maximization in Online Social Networks.** Hui Li, Sourav S Bhowmick, Aixin Sun. *In the Proceedings of the 16th ACM International Conference on Extending Database Technology (EDBT 2013)*, ACM Press, 323-334, Genoa, Italy, March 2013. (`Acceptance rate: 20.6%`)

91. **VOGUE: Towards A Visual Interaction-aware Graph Query Processing Framework.** Sourav S Bhowmick, Byron Choi, Shuigeng Zhou. *In Proceedings of the 6th Biennial Conference on Innovative Data Systems Research (CIDR 2013)*, ACM Press, Asilomar, California, USA, Jan 2013.

92. **Efficient Algorithms for Generalized Subgraph Query Processing.** Wenqing Lin, Xiaokui Xiao, James Cheng, Sourav S Bhowmick. *In Proceedings of the 21st ACM International Conference on Information and Knowledge Management (ACM CIKM 2012)*, ACM Press, 325-334, Hawai, USA, Oct 2012. (`Acceptance rate: 13.4%`)

93. **STEROID: In Silico Heuristic Target Combination Identification for Disease-Related Signaling Networks.** Huey-Eng Chua, Sourav S Bhowmick, L Tucker-Kellogg, C F Dewey, Jr. *In Proceedings of 3rd ACM Conference on Bioinformatics, Computational Biology and Biomedicine (ACM BCB 2012)*, ACM Press, 4-11, Orlando, Florida, USA, Oct 2012. (`Acceptance rate: 20.7%`)

94. **Content is Still King: The Effect of Neighbor Voting Schemes on Tag Relevance for Social Image Retrieval**. Ba Quan Truong, Aixin Sun, Sourav S Bhowmick. *Proceedings of 2nd ACM International Conference on Multimedia Retrieval (ACM ICMR 2012)*, ACM Press, 9, Hong Kong, China, June 2012. (`Acceptance rate 18%`) [`Oral`]

95. **CASIS: A System for Concept-Aware Social Image Search.** Ba Quan Truong, Aixin Sun, Sourav S Bhowmick. *In Proceedings of 21st ACM International Conference on World Wide Web (ACM WWW 2012)*, ACM Press, 425-428, Lyon, France, April 2012 (Demo).

96. **Stars on Steroids: Fast Evaluation of Multi-source Star Twig Queries in RDBMS.** Erwin Leonardi, Sourav S Bhowmick, Fengrong Li. *In Proceedings of 17th International Conference on Database Systems for Advanced Applications (DASFAA 2012)*, Springer Verlag, 110-125, Busan, South Korea, April 2012. (`Acceptance rate 27.6%`) **[Best Papers of DASFAA 2012]**

97. **SINBAD: Towards Structure-Independent Querying of Common Neighbors in XML Databases.** Ba Quan Truong, Sourav S Bhowmick, Curtis Dyreson. *In Proceedings of 17th International Conference on Database Systems for Advanced Applications (DASFAA 2012)*, Springer Verlag, 156-171, Busan, South Korea, April 2012. (`Acceptance rate 27.6%`)

98. **Querying XML Data: As You Shape It.** Curtis Dyreson, Sourav S Bhowmick. *In the Proceedings of the 28th IEEE International Conference on Data Engineering (ICDE 2012)*, IEEE CS, 642-653, Washington, USA, April 2012. (`Acceptance rate: 17.7%`)

99. **PRAGUE: Towards Blending Practical Visual Subgraph Query Formulation and Query Processing.** Changjiu Jin, Sourav S Bhowmick, Byron Choi, Shuigeng Zhou. *In the Proceedings of the 28th IEEE International Conference on Data Engineering (ICDE 2012)*, IEEE CS, 222-233, Washington, USA, April 2012. (`Acceptance rate: 17.7%`)

100. **Integrating Historical Noisy Answers For Improving Data Utility under Differential Privacy.** Shixi Chen, Shuigeng Zhou, Sourav S Bhowmick. *In the Proceedings of the 15th ACM International Conference on Extending Database Technology (EDBT 2012)*, ACM Press, 62-73, Berlin, Germany, March 2012. (`Acceptance rate: 22.5%`)

101. **In Silico Identification of Endo16 Regulators in the Sea Urchin Endomesoderm Gene Regulatory Network.** Huey-Eng Chua, Sourav S Bhowmick, Lisa Tucker-Kellogg, Qing Zhao, C F Dewey, Jr, Hanry Yu. *In Proceedings of 2nd ACM SIGHIT International Health Informatics Symposium (IHI 2012)*, ACM Press, 131-140, Miami, USA, Jan 2012. (`Acceptance rate: 25.4%`)

102. **PANI: An Interactive Data-driven Tool for Targets Prioritization in Signaling Networks.** Huey-Eng Chua, Sourav S Bhowmick, Lisa Tucker-Kellogg, Yingqi Wang, C F Dewey, Jr, Hanry Yu. *In Proceedings of 2nd ACM SIGHIT International Health Informatics Symposium (IHI 2012)*, ACM Press, 851-854, Miami, USA, Jan 2012 (Demo paper).

103. **FUSE: A System for Data-Driven Multi-Level Functional Summarization of Protein Interaction Networks.** Boon-Siew Seah, Sourav S Bhowmick, C F Dewey, Jr, Hanry Yu. *In Proceedings of 2nd ACM SIGHIT International Health Informatics Symposium (IHI 2012)*, ACM Press, 847-850, Miami, USA, Jan 2012 (Demo paper).

104. **Social Image Tag Recommendation by Concept Matchings.** Aixin Sun, Sourav S Bhowmick, Jun-An Chong. *In Proceedings of 19th ACM International Conference on Multimedia (ACM MM 2011)*, ACM Press, 1181-1184, Scottsdale, USA, Nov-Dec 2011. (Short paper)

105. **CASINO: Towards Conformity-Aware Social Influence Analysis in Online Social Networks.** Hui Li, Sourav S Bhowmick, Aixin Sun. *In Proceedings of the 20th ACM International Conference on Information and Knowledge Management (ACM CIKM 2011)*, 1007-1012, ACM Press, Glasgow, Scotland, Oct 2011 (Short paper). (`Acceptance rate: 25%`)

106. **FUSE: Towards Multi-Level Functional Summarization of Protein Interaction Networks.** Boon-Siew Seah, Sourav S Bhowmick, C F Dewey, Jr, Hanry Yu. *In Proceedings of 2nd ACM Conference on Bioinformatics, Computational Biology and Biomedicine (BCB 2011)*, 2-11, ACM Press, Chicago, USA, Aug 2011. (`Acceptance rate: 19%`) **(Best Paper Award)**.

107. **PANI: A Novel Algorithm for Fast Discovery of Putative Target Nodes in Signaling Networks.** Huey-Eng Chua, Sourav S Bhowmick, Qing Zhao, L Tucker-Kellogg, C F Dewey, Jr, Hanry Yu. *In Proceedings of 2nd ACM Conference on Bioinformatics, Computational Biology and Biomedicine (BCB 2011)*, 284-288, ACM Press, Chicago, USA, Aug 2011. (Short paper)

108. **GBLENDER: Visual Subgraph Query Formulation Meets Query Processing.** Changjin Jiu, Sourav S Bhowmick, Xiaokui Xiao, Byron Choi, Shuigeng Zhou. *In Proceedings of 37th ACM SIGMOD International Conference on Management of Data (ACM SIGMOD 2011)*, ACM Press, 1327-1330, Athens, Greece, 2011. (Demo paper)

109. **Optimizing Incremental Maintenance of Minimal Bisimulation of Cyclic Graphs.** Jintian Deng, Byron Choi, J. Xu, Sourav S Bhowmick. *In Proceedings of 16th International Conference on Database Systems for Advanced Applications (DASFAA 2011)*, Springer Verlag, 543-557, Hong Kong, China, April 2011. (Acceptance rate 24%)

110. **Efficient Evaluation of NOT-Twig Queries in Tree-Unaware Relational Databases.** Kheng-Hong Soh, Sourav S Bhowmick. *In Proceedings of 16th International Conference on Database Systems for Advanced Applications (DASFAA 2011)*, Springer Verlag, 511-527, Hong Kong, China, April 2011. (Acceptance rate 24%)

111. **Efficient Maintenance of Common Keys in Archives of Continuous Query Results from Deep Web Sites.** Fajar Ardian, Sourav S Bhowmick. *In the Proceedings of the 27th IEEE International Conference on Data Engineering (ICDE 2011)*, IEEE CS, 637-648, Hanover, Germany, April 2011. (Acceptance rate 19.8%)

112. **Affinity-Driven Prediction and Ranking of Products in Online Product Review Sites.** Hui Li, Sourav S Bhowmick, Aixin Sun. *In Proceedings of the 19th ACM International Conference on Information and Knowledge Management (ACM CIKM 2010)*, ACM Press, 1745-1748, Toronto, Canada, Oct 2010 (Short paper). (Acceptance rate 31%)

113. **Quantifying Tag Representativeness of Visual Content of Social Images.** Aixin Sun, Sourav S Bhowmick. *In Proceedings of 18th ACM International Conference on Multimedia (ACM MM 2010)*, ACM Press, 471-480, Firenze, Italy, October 2010. (Acceptance rate 16%)

114. **Searching and Browsing Social Images through iAVATAR.** Aixin Sun, Sourav S Bhowmick. *ACM Multimedia Grand Challenge*, Firenze, Italy, October 2010.

115. **iAVATAR: An Interactive Tool for Finding and Visualizing Visual-Representative Tags in Image Search.** Aixin Sun, Sourav S Bhowmick, Yao Liu. *In Proceedings of 36th International Conference on Very Large Data Bases (VLDB 2010)*, 3(2): 1609-1612, Singapore, September 2010 (Demo paper). (Acceptance rate 36%)

116. **Using XMorph to Transform XML Data.** Curtis Dyreson, Sourav S Bhowmick, K Mallampalli. *In Proceedings of 36th International Conference on Very Large Data Bases (VLDB 2010)*, 3(2): 1541-1544, Singapore, September 2010 (Demo paper). (Acceptance rate 36%)

117. **GBLENDER: Towards Blending Visual Query Formulation and Query Processing in Graph Databases.** Changjin Jiu, Sourav S Bhowmick, Xiaokui Xiao, James Cheng, Byron Choi. *In Proceedings of 36th ACM SIGMOD International Conference on Management of Data (ACM SIGMOD 2010)*, ACM Press, 111-122, Indianapolis, USA, 2010. (Acceptance rate 20.8%)

118. **Efficient Database-Driven Evaluation of Security Clearance for Federated Access Control of Dynamic XML Documents.** Erwin Leonardi, Sourav S Bhowmick, M Iwaihara. *In Proceedings of 15th International Conference on Database Systems for Advanced Applications (DASFAA 2010)*, Springer Verlag, 299-306, Tsukuba, Japan, April 2010. (Short Paper) (Acceptance rate 30%)

119. **BIDEL: An XML-based System for Effective Fast Change Detection of Genomic and Proteomic Data.** Yang Song, Sourav S Bhowmick. *In Proceedings of 15th International Conference on Database Systems for Advanced Applications (DASFAA 2010)*, Springer Verlag, 472-476, Tsukuba, Japan, April 2010. (Demo Paper)

120. **XMorph: A Shape-Polymorphic, Domain-Specific XML Data Transformation Language.** Curtis Dyreson, Sourav S Bhowmick, A R Jannu, K Mallampalli, S Zhang. *In the Proceedings of the 26th IEEE International Conference on Data Engineering (ICDE 2010)*, IEEE CS, 844-847, Los Angeles, USA, March 2010. (Short Paper) (Acceptance rate 20%)

121. **The Steady States and Dynamics of Urokinase Mediated Plasmin Activation.** Lakshmi Venkatraman, Hanry Yu, Sourav S Bhowmick, C F Dewey, Jr, Lisa Tucker-Kellogg. *In the Proceedings*

of the 15th Pacific Symposium of Biocomputing (PSB 2010), 190-199, Hawai, USA, Jan 2010.

122. **Blog Cascade Affinity: Analysis and Prediction.** Li Hui, Sourav S Bhowmick, Aixin Sun. *In Proceedings of the 18th ACM International Conference on Information and Knowledge Management (ACM CIKM 2009)*, ACM Press, 1117-1126, Hong Kong, China, Nov 2009. (Acceptance rate 14.5%)

123. **Towards Non-directional XPath Evaluation in a RDBMS.** Sourav S Bhowmick, Curtis Dyreson, E Leonardi, Zhifeng Ng. *In Proceedings of the 18th ACM International Conference on Information and Knowledge Management (ACM CIKM 2009)*, ACM Press, 1501-1504, Hong Kong, China, Nov 2009 (Short paper). (Acceptance rate 20.2%)

124. **NEAR-Miner: Mining Evolution Associations of Web Site Directories for Efficient Maintenance of Web Archives.** Ling Chen, Sourav S Bhowmick, W Nejdl. *In Proceedings of 35th International Conference on Very Large Data Bases (VLDB 2009)*, 2(1): 1150-1161, Lyon, France, August 2009. (Acceptance rate 17.9%)

125. **In the Search of NECTARs from Evolutionary Trees.** Ling Chen, Sourav S Bhowmick. *In Proceedings of 14th International Conference on Database Systems for Advanced Applications (DASFAA 2009)*, Springer Verlag, 714-729, Brisbane, Australia, April 2009. (Acceptance rate 21%)

126. **On the Discovery of Conserved XML Query Patterns For Evolution-Conscious Caching.** Sourav S Bhowmick. *In Proceedings of 14th International Conference on Database Systems for Advanced Applications (DASFAA 2009)*, Springer Verlag, 527-542, Brisbane, Australia, April 2009. (Acceptance rate 21%)

127. **XBLEND: Visual XML Query Formulation Meets Query Processing.** Zhou Yong, Sourav S Bhowmick, E Leonardi, K Widjanarko. *In the Proceedings of the 25th IEEE International Conference on Data Engineering (ICDE 2009)*, IEEE CS, 1535-1538, Shanghai, China, March 2009. (Demo Paper)

128. **XML Data Integration Based on Content and Structure Similarity Using Keys.** W. Viyanon, Sanjay Madria, Sourav S Bhowmick. *In the Proceedings of the 16th International Conference on Cooperative Information Systems (COOPIS 2008),* Springer Verlag, 484-493, Monterrey, Mexico, November 2008. (Acceptance rate 20%)

129. **Characterizing and Predicting Community Members from Evolutionary and Heterogeneous Networks.** Qiankun Zhao, Sourav S Bhowmick, Xin Zheng, Kai Yi. *In Proceedings of the 17th ACM International Conference on Information and Knowledge Management (ACM CIKM 2008)*, ACM Press, 309-318, Napa Valley, California, Oct 2008. (Acceptance rate 17%)

130. **Efficient Processing of High Selective XML Twig Patterns with Parent-Child Edges in a Tree-Unaware RDBMS.** Sourav S Bhowmick, Erwin Leonardi, Hongmei Sun. *In Proceedings of the 16th ACM International Conference on Information and Knowledge Management (ACM CIKM 2007)*, ACM Press, 673-682, Lisbon, Portugal, Nov 2007. (Acceptance rate 17%)

131. **Efficient Evaluation of Nearest Common Ancestor in XML Twig Queries Using Tree-Unaware RDBMS.** K G Widjanarko, Sourav S Bhowmick, Erwin Leonardi. *In Proceedings of the 18th International Conference on Database and Expert Systems Applications (DEXA 2007)*, Springer-Verlag, 617-628, Regensburg, Germany, Sept, 2007. (Acceptance rate 32%)

132. **XANADUE: A System for Detecting Changes to XML Data in Tree-Unaware Relational Databases.** Erwin Leonardi, Sourav S Bhowmick. *In Proceedings of 26th ACM SIGMOD International Conference on Management of Data (ACM SIGMOD 2007)*, ACM Press, 1137-1140, Beijing, China, 2007 (Demo paper).

133. **Mirror Site Maintenance Based on Evolution Associations of Web Directories.** Ling Chen, Sourav S Bhowmick, Wolfgang Nejdl. *In Proceedings of 16th ACM International Conference*

on World Wide Web (WWW 2007), ACM Press, 1297-1298, Banff, Canada, May 2007 (Poster paper).

134. **Efficient Support of Ordered XPath Processing in Tree-Unaware Commercial Relational Databases.** Boon-Siew Seah, K G Widjanarko, Sourav S Bhowmick, Byron Choi, Erwin Leonardi. *In Proceedings of 12th International Conference on Database Systems for Advanced Applications (DASFAA 2007)*, Springer Verlag, 793-806, Bangkok, Thailand, April 2007. (Acceptance rate 18.7%)

135. **Efficient XML Query Processing in RDBMS Using GUI-Driven Prefetching in a Single-User Environment.** Sandeep Prakash, Sourav S Bhowmick, K G Widjanarko, C F Dewey, Jr. *In Proceedings of 12th International Conference on Database Systems for Advanced Applications (DASFAA 2007)*, Springer Verlag, 819-833, Bangkok, Thailand, April 2007. (Acceptance rate 18.7%)

136. **BioDIFF: An Effective Fast Change Detection Algorithm for Biological Annotations.** Yang Song, Sourav S Bhowmick, C F Dewey, Jr. *In Proceedings of 12th International Conference on Database Systems for Advanced Applications (DASFAA 2007)*, Springer Verlag, 275-287, Bangkok, Thailand, April 2007. (Acceptance rate 18.7%)

137. **OXONE: A Scalable Solution for Detecting Superior Quality Deltas on Ordered Large XML Documents.** Erwin Leonardi, Sourav S. Bhowmick. *In Proceedings of the 25th International Conference on Conceptual Modelling (ER' 06),* Springer-Verlag, 196-211, Tucson, USA, Nov, 2006. (Acceptance rate 23.4%)

138. **Event Detection from Evolution of Click-Through Data.** Qiankun Zhao, Tie-Yan Liu, Sourav S Bhowmick, Wei-Ying Ma. *In Proceedings of 12th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (SIGKDD 2006)*, ACM Press, 484-493, Philadelphia, USA, August 2006. (Student Travel Award). (Acceptance rate 11%)

139. **A Tale of Two Approaches: Query Performance Study of XML Storage Strategies in Relational Databases.** Sandeep Prakash, Sourav S Bhowmick. *In Proceedings of the 17th International Conference on Database and Expert Systems Applications (DEXA 2006).* Springer-Verlag, 149-160, Krakow, Poland, Sept, 2006. (Acceptance rate 23.2%)

140. **Time-Dependent Semantic Similarity Measure of Queries Using Historical Click-Through Data.** Qiankun Zhao, Chu-Hong Hoi, Tie-Yan Liu, Sourav S Bhowmick, Michael Lyu, Wei-Ying Ma. *In Proceedings of 15th ACM International Conference on World Wide Web (WWW 2006)*, ACM Press, 543-552, Edinburgh, Scotland, May 2006. (Acceptance rate 11%)

141. **CLEOPATRA: Evolutionary Pattern-based Clustering of Web Usage Data.** Qiankun Zhao, Sourav S Bhowmick, Le Gruenwald. *In Proceedings of 10th Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2006)*, Springer Verlag, 323-333, Singapore, April 2006. (Acceptance rate 13.4%)

142. **iWED: An Integrated Multigraph Cut-based Approach for Detecting Events from A Website.** Qiankun Zhao, Sourav S Bhowmick, Aixin Sun. *In Proceedings of 10th Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2006)*, Springer Verlag, 351-360, Singapore, April 2006. (Acceptance rate 13.4%)

143. **Mining Temporal Indirect Associations.** Ling Chen, Sourav S Bhowmick, Jinyan Li. *In Proceedings of 10th Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2006)*, Springer Verlag,425-434, Singapore, April 2006. (Acceptance rate 13.4%)

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Refereed Workshops

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2. **Image Tag Clarity: In Search of Visual-Representative Tags for Social Images.** Aixin Sun, Sourav S Bhowmick. *In Proceedings of ACM International Workshop on Social Media (in conjunction with ACM MM 2009)*, Beijing, China. **(Nominated for Best Paper Award)**.

3. **Morph: A (Shape) Polymorphic XML Query Language.** C. Dyreson, Sourav S Bhowmick, A. R. Jannu, K. Mallampalli, S. Zhang. *In ACM SIGPLAN Workshop on Programming Language Technique for XML (PLAN-X 2009)*, ACM Press, Savannah, Georgia, USA, January 2009.

4. **PRIVATE-IYE: A Framework for Privacy Preserving Data Integration.** Sourav S Bhowmick, Le Gruenwald, M Iwaihara, S Chatvichienchai. *In Proceedings of the 2nd IEEE International Workshop of Privacy Data Management (PDM 2006)* (in conjunction with ICDE 2006), IEEE Computer Society, 91, Atlanta, USA, April 2006.

5. **VRules: An Effective Association-based Classifier for Videos.** Chen Ling, Sourav S Bhowmick, Clement Chia. *In the Proceedings of the 2nd ACM International Workshop on Multimedia Databases (in conjunction with ACM CIKM 2004)*, ACM Press, 85-93, Washington D.C, USA, Nov 2004.

6. **Looking at Mapping, Indexing and Querying MPEG-7 Descriptors with RDBMS with SM3.** Yang Chu, Clement Chia, Sourav S Bhowmick. *In the Proceedings of the 2nd ACM International Workshop on Multimedia Databases (in conjunction with ACM CIKM 2004)*, ACM Press, 55-64, Washington D.C, USA, Nov 2004.

7. **Research Issues in Web Structural Delta Mining.** Zhao Qiankun, Sourav S Bhowmick, Sanjay Madria. *In Proceedings of IEEE Workshop on Foundations and New Directions of Data Mining (in conjunction with IEEE ICDM 2003)*, IEEE Computer Society, Melbourne, Florida, USA, Nov 2003.

8. **VACXENE: A Visual Synthetic XML Generator.** Khoo Boon-Tian, Sourav S Bhowmick, Sanjay Madria. *In Proceedings of the International Workshop on XML Schema and Data Management* (in conjunction with ER 2003), Springer-Verlag, 355-365, Chicago, USA, Oct, 2003.

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10. **Ranking of Web Data in a Web Warehouse.** Sanjay Madria, Sourav S Bhowmick, K Passi. *In Proceedings of International Workshop on Data Semantics in Web Information Systems (in conjunction with WISE 2002),* IEEE Computer Society, 130-139, Singapore, Dec, 2002.

11. **Web Informetrics: Extending Classical Informetrics to the Web.** Devanshu Dhyani, Sourav S Bhowmick, Ng Wee Keong. *In Proceedings of 3rd International Workshop on Management Information on the Web (in conjunction with DEXA 2002),* IEEE Computer Society, 351-355, Aix-en-Provence, France, Sept, 2002.

12. **Controlling Web Query Execution in a Web Warehouse.** Sourav S. Bhowmick, Ng Wee Keong, Sanjay K. Madria. *In Proceedings of 1st International Workshop on Very Large Data Warehouses (in conjunction with DEXA 2002),* IEEE Computer Society, 805-809, Aix-en-Provence, France, Sept, 2002.

13. **Warehousing and Querying Biological Data using the gRNA.** Sourav S. Bhowmick, Pedro Cruz, Amey Laud. *In Proceedings of 1st International Workshop on Bioinformatics (In counjuction with 13th International Symposium on Methodologies for Intelligent Systems),* France, May 2002.

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16. **Data Visualization in a Web Warehouse.** Sourav S. Bhowmick, Sanjay K. Madria, Ng Wee-Keong, Lim Ee-Peng. *In Proceedings of the 6th International Workshop on Data Warehousing and Data Mining (in conjunction with ER '98),* Singapore, Springer-Verlag, 68-80, Nov, 1998.

17. **Web Warehousing: Design and Issues.** Sourav S. Bhowmick, Sanjay K. Madria, Ng Wee-Keong, Lim Ee-Peng. *In Proceedings of the 6th International Workshop on Data Warehousing and Data Mining (in conjunction with ER '98)*, 93-104, Singapore, Springer-Verlag, Nov, 1998.

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Books

1. **Plug-and-Play Visual Subgraph Query Interfaces.** Sourav S Bhowmick, Byron Choi. Synthesis Lectures on Data Management, *Springer*, pp. 1 – 170, ISBN: 978-3-031-16162-9, March 2023.

2. **Human Interaction with Graphs: A Visual Querying Perspective.** Sourav S Bhowmick, Byron Choi, Chengkai Li. Synthesis Lectures on Data Management, *Morgan & Claypool Publishers*, pp. 1 – 208, ISBN 978-1-681-73378-4, Aug 2018 **(Invited)**.

3. **Summarizing Biological Networks.** Sourav S. Bhowmick, Boon-Siew Seah. *Springer Verlag*, ISBN 978-3-319-54620-9, pp. 1 – 142, May 2017.

4. **Web Data Management: A Warehouse Approach.** Sourav S. Bhowmick, Sanjay Madria, Wee Keong Ng. *Springer Verlag*, ISBN 0-387-00175-1, pp. 1 – 472, 2003.

Book Chapters

1. **Visual Graph Querying.** Sourav S. Bhowmick, Byron Choi. *In Encyclopaedia of Big Data Technologies.* Hannes Voigt, George Fletcher (Eds.). Springer Verlag, 2018 **(Invited)**.

2. **Quantifying Visual-Representativeness of Social Image Tags using Image Tag Clarity.** Aixin Sun, Sourav S. Bhowmick. *In Social Media Modeling and Computing.* Steven C.H. Hoi, et al (Eds.), Springer Verlag, 3-23, 2011. [Extended version of WSM'09].

3. **Research Issues in Web Structural Delta Mining.** Q. Zhao, Sourav S Bhowmick, Sanjay Madria. *Foundations and Novel Approaches in Data Mining Series: Studies in Computational Intelligence*, Vol. 9, Lin, T.Y.; Ohsuga, S.; Liau, C.-J.; Hu, X. (Eds.) ISBN: 3-540-28315-3, Springer Verlag, 272-289, 2006.

4. **Mining Historical XML: Issues and Challenges.** Q. Zhao, Sourav S Bhowmick. *Enclyclopedia of Data Warehousing and Mining.*, Idea Groups Inc, 2004.

5. **Data and Transaction Management in a Mobile Environment.** S K Madria, B Bhargava, M Mohania, S S Bhowmick. *A book chapter in Mobile Computing: Implementing Pervasive Information and Communication Technologies,* Kluwer Academic Publishers, Dec 2001.

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7. **Mobile Data Management.** Sanjay K Madria, Sourav S. Bhowmick. *IEEE Potential Magazine,* 2001.

Refereed Abstracts/Extended Abstracts

1. **Meta-analytic Connectivity Modelling in Adults with Autism Spectrum Disorders.** Alicia Goodwill, Li Tong Low, Peter T. Fox, Mickle Fox, Kenneth K. Poon, Sourav S Bhowmick, S. H. Annabel Chen. *Organization for Human Brain Mapping (OHBM) Annual Meetings*, Virtual, June 2021.

2. **Efficient Shapelet Discovery for Time Series Classification.** Guozhong Li, Byron Choi, Jianliang Xu, Sourav S Bhowmick, Kwok-Pan Chun, Grace Wong. *the Proceedings of the 37th IEEE International Conference on Data Engineering (ICDE 2021)*, IEEE CS, Chania, Greece, April 2021.

3. **A Generic Ontology Framework for Indexing Keyword Search on Massive Graphs.** Jiaxin Jiang, Byron Choi, Jianliang Xu, Sourav S Bhowmick. *the Proceedings of the 37th IEEE International Conference on Data Engineering (ICDE 2021)*, IEEE CS, Chania, Greece, April 2021.

4. **PINOCCHIO: Probabilistic Influence-based Location Selection over Moving Objects.** Meng Wang, Hui Li, Jiangtao Cui, Ke Deng, Sourav S Bhowmick, Zhenhua Dong. *In the Proceedings of the 33rd IEEE International Conference on Data Engineering (ICDE 2017)*, IEEE CS, San Diego, USA, April 2017.

5. **Structure-Preserving Subgraph Query Services.** Zhe Fan, Byron Choi, Qian Chen, Jianliang Xu, Haibo Hu, Sourav S Bhowmick. *In the Proceedings of the 32nd IEEE International Conference on Data Engineering (ICDE 2016)*, IEEE CS, Helsinki, Finland, April 2016.

6. **In Silico Approach to Identify Sensitive Molecules for Use as Potential Drug Targets.** H.-Y Chua, Sourav S Bhowmick, Hanry Yu, C Forbes Dewey, Jr. *In Biomedical Engineering Society Annual Fall Meeting*, Pittsburg, Oct 2009 (Poster).

7. **Quantitative Modeling of Ischemia/Reperfusion Injury in Heart and Liver.** H.-Y Chua, Andrew Koo, Sourav S Bhowmick, Hanry Yu, C Forbes Dewey, Jr. *In Biomedical Engineering Society Annual Fall Meeting*, St Louis, Oct 2008 (Poster).

8. **A New Approach to Database Creation Using Ontologies: OWLdb.** K. R. Stiehl, K. Dang, S. Ayyadurai, B.-S Seah, Sourav S Bhowmick, C. Forbes Dewey, Jr. *In Biomedical Engineering Society Annual Fall Meeting*, Los Angeles, Sept 2007 (Poster).

9. **An Information Architecture to Support Molecular Pathway Models.** K. Dang, K. R. Stiehl, S. Ayyadurai, B.-S Seah, Sourav S Bhowmick, C. Forbes Dewey, Jr. *In Biomedical Engineering Society Annual Fall Meeting*, Los Angeles, Sept 2007 (Poster).

10. **Footprints in the Sand: Supporting External Analysis of Medical and Biological Databases.** C. Forbes Dewey, Jr., Shiva Ayyadurai, Vincent Rouilly, C L Poh, Sourav S. Bhowmick, James Evans, Richard I. Kitney. *In World Congress on Medical Physics and Biomedical Engineering (WC 2006)*, Seoul, August-Sept 2006.

11. **A Publicly-Available Database for Biological Microscopy Images.** Kaori Hagihara, Katherine Yiu, Shixin Zhang, Kurt Stiehl, Sourav Bhowmick, Al Davis, James Evans, and C. Forbes Dewey, Jr. *In World Congress on Medical Physics and Biomedical Engineering (WC 2006)*, Seoul, August-Sept 2006.

Software Prototypes Demonstrated in Peer-Reviewed Conferences

#		Venue	Year
1.	**ARENA** *A system for retrieval and exploration of alternative query plans.*	SIGMOD	2023
2.	**VOYAGER** *A tool for computing aesthetics of a graph query interface.*	EDBT	2023
3.	**SENSOR** *A data-driven sketch-based interface system for time series data.*	VLDB	2022
4.	**MOCHA** *A tool for visualizing impact of operator choices in query execution plans.*	VLDB	2022
5.	**PLAYPEN** *A plug-and-play visual graph query interface system for large networks.*	SIGMOD	2022
6.	**LANTERN** *A system for generating natural language descriptions of query execution plans.*	SIGMOD	2022
7.	**Visualet** *A tool for visualizing shapelets for time-series classification.*	CIKM	2020
8.	**LATTE** *A tool visual construction of smart contracts.*	SIGMOD	2020
9.	**AURORA** *A tool for data-driven construction of visual subgraph query interfaces for graph databases.*	SIGMOD	2020
10.	**BOOMER** *A tool for visual formulation and processing of p-hom queries.*	SIGMOD	2020
11.	**DICT** *A tool for analyzing and visualizing historical documents.*	CIKM	2019

12.	**KANDINSKY** *A visualization tool for social discussions.*	SIGIR *2019*
13.	**NEURON** *A tool for natural language understanding of query execution plan.*	SIGMOD *2019*
14.	**ATAR** *A tool for temporal analog retrieval.*	WSDM *2019*
15.	**PANDA** *A tool for partial topology-based search on networks.*	VLDB *2018*
16.	**PISTIS** *A tool to manage conflict of interest (COI) in peer review.*	SIGMOD *2018*
17.	**PICASSO** *A tool to progressively query and explore graph data.*	VLDB *2017*
18.	**ASTERIX** *An XML keyword search engine.*	SIGIR *2017*
19.	**TOTEM** *A personal tweets summarization tool for mobile devices.*	SIGIR *2017*
20.	**FacetsViewer** *A Tool for multi-faceted decomposition of complex networks.*	ICDM *2016*
21.	**TENET** *A Machine learning-based system for target characterization in signaling networks.*	ICDM *2016*
22.	**AutoG** *A system to autocomplete visual graph queries.*	VLDB *2016*
23.	**PRISM** *A system to summarize search results of social images.*	VLDB *2015*
24.	**Virtual eXist-db** *A system to support access-path-independent hierarchical queries.*	VLDB *2015*
25.	**DaVinci** *A tool to realize the paradigm of data-driven visual subgraph query interface construction.*	ICDE *2015*
26.	**VISUAL** *An HCI-inspired visual subgraph query construction simulator.*	ICDE *2015*
27.	**PIGEON** *A progress indicator of subgraph queries.*	ICDE *2015*
28.	**WINE** *A system for answering why-not questions for social image retrieval.*	WWW *2014*
29.	**QUBLE** *A visual subgraph query blender for large networks.*	SIGMOD *2013*
30.	**CASIS** *A concept-based social image retrieval system.*	WWW *2012*
31.	**FUSE** *A system for summarize protein-protein interaction networks.*	SIGHIT *2012*
32.	**GBlender** *A visual subgraph querying system that blends query formulation and query processing.*	SIGMOD *2011*
33.	**iAVATAR** *A system to understand and visualize relationships of tags in social images.*	VLDB *2010*

34.	**XMorph** *An XML data transformation system.*	VLDB *2010*
35.	**XBLEND** *A visual XML querying system that blends query formulation and query processing.*	ICDE *2009*
36.	**XANADUE** *A scalable RDBMS-based XML change detection system.*	SIGMOD *2007*
37.	**BIDEL** *A change detection and visualization system for biological data.*	DASFAA *2007*

Conference Proceedings Editor

1. Vikram Goyal, Naveen Kumar, Sourav S. Bhowmick, Pawan Goyal, Navneet Goyal, Dhruv Kumar: **Proceedings of the 11th International Conference on Big Data and Artificial Intelligence (BDA)**, New Delhi, India, Springer-Verlag, 2023.

2. Julia Stoyanovich, Jens Teubner, Nikos Mamoulis, Evaggelia Pitoura, Jan Mühlig, Katja Hose, Sourav S. Bhowmick, Matteo Lissandrini: **Proceedings of the 26th International Conference on Extending Database Technology (EDBT)**, Ioannina, Greece, OpenProceedings.org, 2023.

3. Gargi Dasgupta, Yogesh Simmhan, Balaji Vasan Srinivasan, Sourav Bhowmick, Amith Singhee, Maya Ramanath, Nipun Batra, Abhinandan S. Prasad (Eds): **5th Joint International Conference on Data Science & Management of Data (CODS-COMAD)**, Bangalore, India, ACM Press, 2022.

4. X. Sean Wang, Ho-Jin Choi, Junping Du, Yasushi Sakurai, Sourav S. Bhowmick, Sungju Lee (Eds.): **2018 IEEE International Conference on Big Data and Smart Computing (BigComp) Proceedings**, IEEE CS, 2018.

5. Sourav S. Bhowmick, Curtis E. Dyreson, Christian S. Jensen, Mong Li Lee, Agus Muliantara, Bernhard Thalheim (Eds.): **Database Systems for Advanced Applications, 19th International Conference Proceedings**, Springer LNCS 8421-8422, 2014.

6. Sourav S. Bhowmick, Josef Küng, Roland Wagner (Eds.): **Database and Expert Systems Applications, 20th International Conference, DEXA 2009**, Linz, Austria, August 31 - September 4, 2009. Proceedings. Lecture Notes in Computer Science 5690, Springer 2009, ISBN 978-3-642-03572-2

7. Sourav S. Bhowmick, Josef Küng, Roland Wagner (Eds.): **Database and Expert Systems Applications, 19th International Conference, DEXA 2008**, Turin, Italy, September 1-5, 2008. Proceedings. Lecture Notes in Computer Science 5181, Springer 2008, ISBN 978-3-540-85653-5.

International Conference Organizer

1.	**28th International Conference on Extending Database Technology** *Senior PC*	Barcelona, Spain *2025*
2.	**29th Int. Conf. on Database Systems for Advanced Applications (DASFAA)** *Panel Co-chair*	Gifu, Japan *2024*
3.	**ACM India Joint Int. Conf. on Data Science & Management of Data** *Senior PC*	Bangalore, India *2024*
4.	**11th Int. Conference on Big Data and Artificial Intelligence (BDA)** Program Co-Chair	New Delhi, India *2023*

5. **IEEE 39th International Conference on Data Engineering (ICDE)** Anaheim, USA
   Senior PC (I&A Track) 2023

6. **26th International Conference on Extending Database Technology** Ioannina, Greece
   Program Co-Chair 2023

7. **49th ACM SIGMOD International Conference on Management of Data** Seattle, USA
   Associate Editor 2023

8. **31st ACM Int. Conference on Information & Knowledge Management (CIKM)** Atlanta, USA
   Senior PC 2022

9. **48th International Conference on Very Large Data Bases (VLDB)** Sydney, Australia
   Associate Editor 2022

10. **IEEE 38th International Conference on Data Engineering (ICDE)** Kuala Lumpur, Malaysia
    Associate Chair (Area Chair) 2022

11. **27th Int. Conf. on Database Systems for Advanced Applications (DASFAA)** Hyderabad, India
    Senior PC 2022

12. **ACM India Joint Int. Conf. on Data Science & Management of Data** Banglore, India
    Program Co-Chair 2022

13. **47th ACM SIGMOD International Conference on Management of Data** Xi'an, China
    Associate Editor 2021

14. **26th Int. Conf. on Database Systems for Advanced Applications (DASFAA)** Taipei, Taiwan
    Senior PC 2021

15. **IEEE 37th International Conference on Data Engineering (ICDE)** Chalia, Greece
    Vice Chair (Area Chair) 2021

16. **ACM India Joint Int. Conf. on Data Science & Management of Data** Bangalore, India
    Senior PC 2021

17. **29th ACM Int. Conf. on Information & Knowledge Management (CIKM)** Galway, Ireland
    Program Co-Chair *(Short papers)* 2020

18. **45th ACM SIGMOD International Conf. on Management of Data** Amsterdam
    Core (Group Leader) 2019

19. **IEEE International Congress on Big Data** San Francisco, USA
    Track Co-Chair (Big Data Model and Algorithms) 2018

20. **5th IEEE Int. Conf. on Big Data and Smart Computing (BigComp)** Shanghai, China
    Program Co-Chair 2018

21. **44th International Conference on Very Large Data Bases (VLDB)** Rio de Janeiro, Brazil
    Proceedings Co-Chair 2018

22. **36th International Conference on Conceptual Modeling (ER)** Valencia, Spain
    Doctoral Symposium Co-Chair 2017

23. **26th ACM Int. Conf. on Information & Knowledge Management (CIKM)** Singapore
    Workshop Co-Chair 2017

24. **4th IEEE Int. Conf. on Big Data and Smart Computing (BigComp)** Jeju, South Korea
    Workshop Co-Chair 2017

25. **APWeb-WAIM Joint Conference on Web and Big Data** Beijing, China
    Senior PC 2017

26. **1st IEEE Int. Conf. on Data Sciences and Advanced Analytics (DSAA)** Shanghai, China
    Tutorial Co-Chair 2014

27.	**Int. Conf. on Database Systems for Advanced Applications (DASFAA)** *Program Co-Chair*	Bali, Indonesia 2014
28.	**ACM SIGMOD International Conf. on Management of Data** *Publicity Co-Chair*	Indianapolis, USA 2010
29.	**IEEE/WIC/ACM Int. Conf. on Web Intelligence/Intelligent Agent Tech.** *Tutorial Co-Chair*	Toronto 2010
30.	**36th International Conference on Very Large Data Bases (VLDB)** *Local arrangement Co-Chair*	Singapore 2010
31.	**20th Int. Conf. on Database and Expert Systems Applications (DEXA)** *Program Co-Chair*	Linz, Austria 2009
32.	**19th Int. Conf. on Database and Expert Systems Applications (DEXA)** *Program Co-Chair*	Turin, Italy 2008
33.	**Int. Conf. on Database Systems for Advanced Applications (DASFAA)** *Panel Co-chair*	Bangkok 2007
34.	**Int. Conf. on Database Systems for Advanced Applications (DASFAA)** *Local arrangement Co-chair*	Singapore 2006
35.	**Pacific-Asia Conf. on Knowledge Discovery and Data Mining (PAKDD)** *Tutorial Co-chair*	Singapore 2006
36.	**7th Human.Society@Internet Conference** *Publicity Chair*	Seoul, South Korea 2006
37.	**6th Human.Society@Internet Conference** *Publicity Chair*	Tokyo, Japan 2005
38.	**5th Int. Conf. on Parallel & Distributed Computing, Appl. and Tech** *Track Chair (Distributed Database Applications and Data Mining)*	Singapore 2004
39.	**3rd Int. Conf. on Web Information Systems Engineering (WISE)** *Local arrangement Chair*	Singapore 2002

International Workshop Organizer

1.	**13th International Workshop on Quality in Databases (QDB)** *Program Co-Chair*	Guangzhou, China 2024

- In conjunction with VLDB 2024

2.	**3rd ACM International Workshop on Data Systems Education** *Program Co-Chair*	Santiago, Chile 2024

- In conjunction with SIGMOD 2024

3.	**4th Int. W/S on Graph Data Management: Techniques and Appl.** *Program Co-Chair*	Brisbane, Australia 2013

- In conjunction with ICDE 2013

4.	**4th Int. Workshop on on Graph Databases** *Program Co-Chair*	Hong Kong 2013

- In conjunction with DASFAA 2011

5.	**3rd Int. W/S on XML Data Management Tools and Techniques** *Program Chair*	Turin, Italy 2008

- In conjunction with DEXA 2008

6. **2nd Int. W/S on XML Data Management Tools and Techniques**   Regensberg, Germany
   Program Chair   *2007*
   - In conjunction with DEXA 2007

7. **1st Int. W/S on XML Data Management Tools and Techniques**   Krakow, Poland
   Program Chair   *2006*
   - In conjunction with DEXA 2006

8. **3rd Int. Workshop on XML Schema and Data Management**   Atlanta, USA
   Program Co-Chair   *2006*
   - In conjunction with ICDE 2006

9. **2nd Int. Workshop on XML Schema and Data Management**   Tokyo, Japan
   Program Co-Chair   *2005*
   - In conjunction with ICDE 2005

10. **3rd International Workshop on Biological Data Management**   Copenhagen, Denmark
    Program Co-Chair   *2005*
    - In conjunction with DEXA 2005

11. **2nd International Workshop on Biological Data Management**   Zaragoza, Spain
    Program Chair   *2004*
    - In conjunction with DEXA 2004

12. **1st International Workshop on Biological Data Management**   Prague, Czech Republic
    Program Chair   *2003*
    - In conjunction with DEXA 2003

Program Committee Member

ACM SIGMOD	2018, 2019 (Core), 2020, 2021 (AE), 2023 (AE, Demo)
VLDB	2009 - 2014, 2017, 2018, 2019 (PhD Symp), 2020, 2022 (AE), 2023, 2025
IEEE ICDE	2013, 2015 - 2020, 2021-2022 (Vice Chair), 2023 (SPC, I&A)
EDBT	2013, 2016, 2018, 2020 (Demo), 2025 (SPC)
ACM SIGKDD	2016, 2021, 2022
IEEE ICDM	2007 - 2012, 2014, 2015, 2017, 2019
ACM WWW	2010, 2014
ACM WSDM	2021-2024
ACM SIGIR	2020 - 2022, 2024
ACM CIKM	2009 (Ind. Track), 2012, 2013, 2017, 2018, 2022 (SPC)
DASFAA	2006 - 2013, 2019, 2021-2022 (SPC)
ER	2011, 2012, 2015 - 2022
DEXA	2002-2008
DAWAK	2002-2008
ECWeb	2002-2008
CODS-COMAD	2004, 2006, 2010-2013, 2021 (SPC), 2024 (SPC)
BigComp	2015 - 2017
APWeb	2004 - 2010, 2015, 2016
WAIM	2006 - 2009, 2014 - 2016
WISE	2010-2013
PAKDD	2006, 2012
ECML/PKDD	2015
TIME	2015, 2016
Pacific Symposium on Biocomputing	2014, 2015
APBC	2014-2018
International Conference on Genome Informatics	2016
IEEE International Conference on Big Knowledge (ICBK)	2017
IEEE International Conference on Cloud and Big Data Computing (CBDCom)	2016
International Conference on Complex Systems (CCS)	2016
ODBASE	2011-2013
International Conference on Computer Science and its Applications (CSA)	2011
IEEE International Conference on Computational Science and Engineering (CSE)	2011
International Conference on Social Intelligence and Technology (SOCIETY)	2013
International XML Database Symposium (XSym)	2009, 2010
IEEE Advanced Information Networking and Applications (AINA)	2008 - 2011
International Conference on Web Information Systems and Technologies	2008 - 2009
IEEE International Conference on Service Systems and Service Management	2008
International Conference on Fuzzy Systems and Knowledge Discovery	2007
IEEE International Conference on Digital Business Ecosystems and Technologies	2007
International Conference on Information Integration and Web-based Applications & Services	2011
International Conference on E-Business	2007
IEEE Symposium of Computer-Based Medical Systems (CBMS)	2007
Information Resource Management Association (IRMA) Int. Conf.	2006
International Conference on Semantics	2006
International Conference on Distributed Computing and Internet Technology	2004, 2006

International Workshops

Journal Reviewer

- ACM Transactions on Database Systems.
- ACM Transactions on The Web.
- ACM Transactions on Intelligent Systems and Technology (TIST).
- ACM Computing Survey.
- The VLDB Journal.
- IEEE Transactions on Computers.
- IEEE Transactions on Data and Knowledge Engineering.
- IEEE Transactions on Network Science and Engineering.
- IEEE Transactions on Image Processing.
- IEEE Transactions on Human-Machine Systems.
- IEEE Transactions on Multimedia.
- IEEE Transactions on Cybernetics.
- International Journal of Human-Computer Interaction.
- Data Mining and Knowledge Discovery (DMKD) Journal.
- Information Processing & Management, Elsevier.

- Bioinformatics.
- BMC Bioinformatics.
- PLOS ONE.
- Methods, Elsevier Science.
- Journal of Ethnopharmacology, Elsevier Science.
- Phytomedicine, Elsevier Science.
- Information Systems, Elsevier Science.
- Information Sciences.
- ACM SIGKDD Explorations.
- International Journal of Cooperative Information Systems.
- Telemedicine and e-Health, American Telemedicine Association.
- Health Information Science and Systems.
- Journal of Mechanics in Medicine and Biology, Word Scientific.
- Journal of the Association for Information Science and Technology (JASIST)
- Journal of Data Semantics.
- Journal of Digital Information Management (JDIM).
- Data and Knowledge Engineering Journal, Elsevier Science.
- Journal of Systems and Software.
- Computer Methods and Programs in Biomedicine, Elsevier Science.
- Statistical Analysis and Data Mining Journal.
- Journal of Research & Practice in Information Technology, Australian Computer Society.
- Journal of Computer Science and Technology.
- International Journal of Information Technology (IJIT), Singapore Computer Society.
- World Wide Web Journal, Baltzer Science Publisher.

Grant Proposal Reviewer

Serrapilheira Institute (Brazil)	2022, 2023
General Research Council (Hong Kong)	2016, 2020, 2021, 2024
Czech Science Foundation (Czech Republic)	2021
National Research Foundation (Singapore)	2013
Austrian Science Fund (Austria)	2005, 2014

Panelist

1. **ACM SIGMOD**   Philadelphia, USA
   Publication Culture & Review Processes in the DM Community: An Open Discussion   *June 2022*
2. **ACM SIGMOD**   Philadelphia, USA
   Success and Impact Beyond Traditional Metrics   *June 2022*

3. **25th International Conference on Extending Database Technology** Edinburgh, Scotland
Diversity and Inclusion Perspectives Around the World *Apr 2022*

4. **Future of Adult Learning Research Symposium (FoALR)** Singapore
Science of Adult Learning *Nov 2019*

5. **7th ACM Conf. on Bioinfo. Comp. Biology and Health Info. (ACM BCB)** Seattle, USA
Women in Bioinformatics *Oct 2016*

6. **International Conf. on Cloud Computing Research & Innovation (ICCCRI)** Singapore
Large-Scale Data Management and Analytics on Cloud *Oct 2015*

Session Chair

ACM SIGMOD	2018, 2019, 2021
VLDB	2010, 2017, 2018
IEEE ICDE	2011, 2015, 2019
DASFAA	2004, 2006, 2007, 2010-2014
ER	2004
DEXA	2005-2007, 2009
ACM CIKM	2003, 2015
DAWAK	2001, 2003
BigComp	2014
APWeb	2008
WAIM	2008
ADMA	2012
XSym	2010
ECDM	2004

Competitive Research Grants

Active

- **AcRF Tier 1 Grant** S$100,000
  Principal Investigator *Apr 2022-Mar 2024*
  - Towards Data-driven Disambiguation of Homonymous Names in DBLP: A 30-Year-Old Notoriously Hard Challenge.

Past

- **AcRF Tier 2 Grant** S$546,000
  Principal Investigator *Jan 2020-Apr 2023*
  - Towards Hallmark-aware Data-driven Target Combination Prediction for Cancer.

- **AcRF Tier 1 Grant (Thematic)** S$197,983
  Co-Principal Investigator *Mar 2020-Mar 2023*
  - Understanding Functional Relationships Between Socio-affective and Neurocognitive Brain Networks in Adults with ASD and ADHD to Better Inform Learning for Learners and Educators: Towards Maximising the Adult Learning Potential.

- **AcRF Tier 1 Grant** S$130,150
  Principal Investigator *Nov 2018-Apr 2021*
  - NEURON: Query Optimization Meets Natural Language Processing for Enhancing Learning of Database Technology.

- **Hong Kong Research Grants Council, General Research Fund** HK$675,647
  Co-Investigator *Jan 2017-Dec 2019*
  - Privacy-preserving Linear Algebra for Graph Query Algorithms for Massive Networks.

- **AcRF Tier 2 Grant** S$483,600
  Principal Investigator *Aug 2016-Oct 2019*
  - Algorithms and Index Structures for Realtime Dynamic Ridesharing.

- **AcRF Tier 2 Grant** S$605,107
  Principal Investigator *Jan 2016-Mar 2019*
  - Towards Data-driven Visual Graph Query Interface Construction and Management.

- **Hong Kong Research Grants Council, General Research Fund** HK$695,861
  Co-Investigator *Jan 2016-Dec 2018*
  - Exploratory Search on Graph Databases through Subgraph Query Feedback.

- **AcRF Tier 2 Grant** S$514,665
  Collaborator *Jan 2014-Jan 2017*
  - Computational Systems Biology of Synthetic Lethality towards New Cancer Medicine.

- **ACRF Tier 1 Complexity Grant** S$197,000
  Principal Investigator *Nov 2013-Dec 2016*
  - INGOT: Towards Systems Biology-driven In Silico Combination Therapy with Application to Cancer.

- **ACRF Tier 1 Grant** S$181,300
  Principal Investigator *Mar 2013-Jul 2016*
  - VIAGRA: Towards Visual Interaction-Aware Graph Querying Framework.

- **National Natural Science Foundation of China** RMB 240,000
  Collaborator *Jan 2013-Dec 2015*
  - Evolution-driven Analysis of the Correlation Between Multiple Behavioral Agents Within Online Social Networks.

- **Singapore-MIT Alliance Program (Computation & Systems Biology)** S$ 1,004,844
  Principal Investigator *July 2005-July 2013*
  - Advanced Imaging Informatics Technology.

- **Research Grant Council, Hong Kong** HKD$ 329,952
  Collaborator *Jan 2010-Dec 2011*
  - Optimizations for the View Update Problems with Emerging Applications.

- **ACRF Tier 1 Grant** S$100,000
  Co-Principal Investigator *Jan 2010-Jan 2012*
  - Correlation Discovery in Graph Databases and Its Applications.

- **ACRF Tier 1 Grant** S$81,000
  Principal Investigator *April 2008-March 2010*
  - Recursive Yet Interactive Query Evaluation for Complex-Structured Data.

- **ROAR Award** S$100,000
  Principal Investigator *2006-2010*

- Social Network Analytics.

- **University Research Grant** — S$269,545
  Co-Principal Investigator — *2002-2005*
  - PET-DEVICE++ (Push-pull Extraction Tool for Distributed Audio Visual Content Terminal).

Graduate Students Advisor

Ph.D. Graduates

No.	Name	Year	Title	Current Employment
10	Renchi Yang	2021	*Efficient and Scalable Techniques for PageRank-based Graph Analytics*	Assistant Professor, HKBU, Hong Kong SAR
9	Xi Lin	2020	*Data-driven Travel Time and Demand Estimation of Vehicles in Smart Cities*	Research Scientist, Grab, Singapore
8	Huey Eng Chua	2015	*TRECENTO: In Silico Network-driven Identification of Target Combinations for Combination Therapy*	Product Owner, Ilumina, Singapore
7	Boon Siew Seah	2014	*Multi-resolution Functional Summarization and Alignment of Biological Network Models*	Director, Accenture, Singapore
6	Li Hui	2012	*iMASON: Towards Influence-Driven Multi-Level Analysis of Online Social Networks*	Professor, Xidian University, China
5	Lakshmi Venkatraman	2012	*Mathematical Model of Activation of Transforming Growth Factor-$\beta 1$ With Application to Liver Fibrosis*	Computational Biologist, Proteona
4	Chu Yang (Co-advisor)	2008	*Mapping, Indexing & Querying MPEG-7 Descriptors & Description Schemes*	–
3	Chen Ling	2007	*Discovering Association Rules from Structural Evolution of Tree Structured Web Data*	Professor, University of Technology, Sydney, Australia
2	Qiankun Zhao	2007	*Mining Evolution of Structure of Semi-Structured Web Data*	Chief Product Officer, Diact.com, China.
1	Erwin Leonardi	2007	*Scalable XML Change Detection Using Relational Databases*	Data Science Lead, Rio Tinto, Singapore.

Masters Graduates (By Research)

No.	Name	Year	Title	Current Employment
4	Hui Li	2022	*Social Psychology Meets Online Information Diffusion*	
3	Christina Lui	2019	*KANDINSKY: Time-based Visualization Of Online Social Comments*	Singapore Airlines
2	Sandeep Prakash	2005	*Efficient Storage and Query Processing of XML Data in Relational Database Systems*	
1	Denis Shestakov	2003	*Modeling and Querying Web Forms*	PDF, Aalto University, Finland

External Thesis Examiner

1. **Daphne Eveline Miedema** — Ph.D 2024
   Eindhoven University of Technology
   - On Learning SQL: Disentangling Concepts in Data Systems Education.

2. **Glenn Steven Bevilacqua** — Ph.D 2022
   The University of British Columbia
   - Efficient Computations on Uncertain Graphs By Group Testing, Streaming and Recycling.

3. **Meiying Li** — Ph.D 2020
   National University of Singapore
   - Techniques for Efficient Query Reverse Engineering.

4. **Pingfu Chao** — Ph.D 2020
   The University of Queensland
   - A Study on Map-Matching and Map Inference Problems.

5. **Mingchen Tan** — Ph.D 2017
   National University of Singapore
   - Using the Prize-Collecting Steiner System to Dissect Genomic Regulatory Network from Heterogeneous Data.

6. **Senyang He** — M.Sc 2016
   University of Auckland
   - Discovering Functional Dependencies From Possibilistic Data.

7. **Silu Wang** — M.Phil 2014
   Chinese University of Hong Kong
   - Reachability, Path and Traversal Problems in Real-World Graphs.

8. **Jongkol Janruang** — Ph.D 2013
   Asian Institute of Technology
   - Applying Semantic Suffix Net for Search Result Clustering.

9. **Hanbo Dai** — Ph.D 2013
   Singapore Management University
   - Anomaly Detection on Social Data.

10. **Jia Zhu** — Ph.D 2012
    The University of Queensland
    - Robust Name Disambiguation Framework for Large Databases.

11. **Nim Tri Hieu** — Ph.D 2012
    National University of Singapore
    - Mathematical Modeling of the Akt Activation Pathway.

12. **Yuting He** — Ph.D 2011
    National University of Singapore
    - Liver Fibrosis Surface Assessment Based on Non-Linear Optical Microscopy.

13. **Bavani Arunasalam** — Ph.D 2007
    The University of Sydney
    - Support Free Data Mining Techniques.

14. **William Miao Shui** Ph.D
    The University of New South Wales *2007*
    - On Efficient Processing of XML Data and Their Applications.

University Service

Current

Faculty Search Committee Member (Economics-Data Science) . . . . 2023 - present
SCSE Faculty Mentor . . . . Jan 2023-Dec 2024
Program Director, MSc (Data Science) . . . . May 2022-present
Subject Area Group (SAG) Lead, Data Management and Analytics Group 2019-present
Grant Review Panel (SCSE) . . . . Oct 2018-present
Research Group Lead, Data Management & Analytics Group . . . . Mar 2012-present

Past

Member (Future of Adult Learning) . . . . Sep 2019-2021
Subject Area Group (SAG) Lead, Data Management and Analytics Group . . May 2011 - Nov 2017
Director, Data-Intensive Scalable Computing (DISCO) Lab . . . . Sep Oct 2006 - Aug 2012
Director, Centre for Advanced Information Systems (CAIS) . . . . Oct 2006 - Aug 2012
Member of NTU CRP Panel for Informatics & Mathematics Discipline . . . . Apr 2013 - Mar 2015
Committee Member, NTU Research Council (NTURC) . . . . Dec 2011 - Dec 2013
Conference and Journal Ranking Committee Member . . . . Oct 2007 - Dec 2014
Faculty Search Committee Member (SCE) . . . . Nov 2006 - May 2014
Graduate Committee (SMA CSB program) . . . . June 2005 - Oct 2009
Deputy Director, Centre for Advanced Information Systems (CAIS) . . . . . . Jul 2005 - Sept 2006
Exhibition Chair of CoE Week . . . . Jul 2005 - Mar 2006
School Representative of CoE Week . . . . Aug 2002 - Mar 2005
School Coordinator of The Enterprise, Innovation & Tech. Exchange Exhibition May 2003 - Oct 2003
School Representative of Innovation in Engineering Conf. & Exhibition . . . . . Mar 2003 - Jul 2003
School Representative of SCIENCE.02 . . . . Jul 2002 - Sept 2002
School Representative of STBM 2001 . . . . Jul 2001 - Sept 2001
Judge of ACM Regional Computer Programming Contest . . . . Aug 2000 - Dec 2001

Curriculum Development

Data Science . . . . M.Sc

Data Science Track . . . . B.Engg

Network Science (CX4071) . . . . B.Engg

Big Data Management (CX4073) . . . . B.Engg

Inventions & Innovations in Computing (CZ1004) . . . . B.Engg (BRC)

Introduction to Databases (CZ2007) . . . . B.Engg

Database System Principles (CZ4031) . . . . B.Engg

Advanced Data Management (CZ4033) . . . . B.Engg

Biomedical Information Technology (SMA 5304) . . . . Ph.D (CSB)

Frontiers of Biomedical Engineering (SMA BE400) . . . . Ph.D (CSB)

Database Systems (CI6114/CI6205) . . . . M.Sc

Courses Offered

Graduate Courses

Data Preparation (M.Sc. (Data Science), SD6104) . . . . Class size: 15-18

Data Science Thinking (M.Sc. (Data Science), SD6101) 20-21

Biomedical Information Technology (Ph.D. (Computational Systems Biology)) 12-21

Database Systems (M.Sc. (Information Systems), CI6114/CI6205) 17-50

Frontiers of Biological Engineering (Ph.D. (Computational Systems Biology), BE400) 7-20

Computer Programming Module 3 (M.Sc. (Financial Engineering), FE8703) 7-21

Undergraduate Courses

Network Science (B.Engg., CX4071) . . . . Class size: 30-68

Database System Principles (B.Engg., CX4031/SC3020) 80-393

Advanced Data Management (B.Engg., CZ4033) 50-75

Introduction to Databases (B.Engg., CX2007) 14-304

Database Systems (B.Engg., CPE303/CSC206) 3-280

Data Structures (B.Engg., SC108) 7-551