

Gouri Deshpande

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EDUCATION

- PhD in Computer Science** **2022**
University of Calgary, Canada
- GPA: 4.0/4.0
 - Thesis: Requirements Dependency Extraction: Advanced Machine Learning Approaches and their ROI Analysis
- Master of Technology, Computer Science & Engineering** **2016**
Visveswaraya Technological University (PES School of Engineering) Bengaluru, India
- Area of study: Scientometrics - Quantitative and qualitative study of science and scientific research
- Bachelor of Technology, Computer Science & Engineering** **2003**
Visveswaraya Technological University, Belgaum, India

EXPERIENCE

- Assistant Professor** **June 2022 – present**
Electrical and Software Engineering, University Calgary, Canada
- Postdoctoral Scholar** **Feb 2022 – May 2022**
Bone Imaging Lab, Cumming School of Medicine, University Calgary, Canada
Utilized software engineering and applied machine learning knowledge to analyze large clinical CT data set and automate bone mineral density and bone strength assessment
- Graduate Teaching Assistant** **Aug 2017 – Dec 2021**
University Calgary, Canada
- Analytics in Software Project Management (2×SENG 607), **TA Excellence award**
 - Software Project Management (4×CPSC 511)
 - Introduction to Python, Programming with Data (DATA 211)
 - Introduction to Python Programming (CPSC 231, CPSC 217)
- Guest Lecturer (for two terms)** **Dec. 2015 – March. 2017**
Indian Statistical Institute, Bengaluru, India
- Planned a detailed curriculum and taught Data structures and C programming
 - Taught Introduction to Hadoop and Map/Reduce programming
- Graduate Research Assistant** **June 2016 – May 2017**
PES school of Engineering (Now PES University), Bengaluru, India
- Lead a team of 12 undergraduate students to research, design and develop *SciBase*, a web-based project hosted on AWS
 - Published 2 conference and 2 journal papers
- Sr. Systems Engineer** **Jan 2010 – Oct 2012**
Hewlett Packard, Labs, Bangalore, India
- Designed and implemented a mobile app prototype having a recommender system
 - Researched, designed and implemented similar document search algorithm on Hadoop which reduced search time by 60%
- Software Engineer** **Nov 2003 – Dec 2010**
Hewlett Packard, GDIC, Bangalore, India
- Lead a team of four to develop critical patch release for high stake customers
 - Implemented, tested, and released critical and escalated issue fixes to obtain 100% customer satisfaction

LEADERSHIP ACTIVITIES

- Mentor on Anita Borg Institute for Women and Technology, a global nonprofit organization **2022-present**
 - Society for Canadian Women in Science & Technology, Canada **2021-present**
 - Graduate Women Leaders Circle, Faculty of Graduate Studies (FGS) **2020-2021**
 - Faculty of Science Innovation committee (FGS) **2020-2021**
- Developed innovation-focused events/ activities that are aligned with the Faculty's strategic direction
- Let's Talk Science: a national, charitable organization **2019 - 2020**
- Organizing (Co)Chair of SciTech Challenge for high school students of Calgary (cancelled due to pandemic)
- Graduate Student Association Awards committee **2018 - 2019**
- Evaluated Bursary, Professional development grant, Excellence awards applications and provided feedback
- Computer Science Graduate Student Association (CSGS) **2018 - 2019**
- As a elected Vice President Social, organized engaging social events related to various scholarly as well as recreational events for students and staff
- Designed & collaborated with an Artist for Soft. Engineering related wall mural, Calgary **2020**
 - Judged and provided oral and written feedback at the Calgary Youth Science Fair, Canada **2018**
 - Represented Woman student in STEM at Soapbox Science, public outreach program, Canada **2018**
 - Lent voice for book digitizing for Samarthanam Trust, a non-profit organization, India **2005**

HONORS & AWARDS

- Cumming School of Medicine Postdoctoral scholarship (CSM, UCalgary) (\$12,500) **2022-24**
 - Elizabeth Cannon Graduate Scholarship in Entrepreneurial Thinking (UCalgary) (\$20,000) **2021**
 - Firmex × STEMHub Foundation Scholarship, STEMHub Foundation (External) (\$5,000) **2021**
 - Anita.B Org. Grace Hopper Celebration Student Scholarship (External) **2021**
 - Lockhart Family Graduate Scholarship in Computer Science (UCalgary) (\$2,600) **2021**
 - Faculty of Graduate Studies Doctoral Scholarship, University of Calgary (\$10,000) (**returned**) **2021**
 - Computer Science Departmental Research Award (RA), University of Calgary (\$11,000) (**returned**) **2020**
 - Alberta Innovates Graduate Student Scholarships for Data-Enabled Innovation (Provincial), (\$31,000) **2020**
 - Best Emerging Result and Vision Paper award **2020**
- ACM/IEEE Int.Symposium on Empirical Soft. Engineering & Measurement
- Teaching Assistant (TA) Excellence award, University of Calgary (\$500) **2020**
 - Computer Science Departmental Research Award (RA), University of Calgary (\$11,000) **2019**
 - Eyes High International Doctoral Scholarship, University of Calgary (\$12,000) **2018**
 - Faculty of Graduate Studies Doctoral Scholarship, University of Calgary (\$10,000) **2018**
 - Best Outgoing Student, PES School of Engineering, Bengaluru, India **2016**
 - Best paper award in the 4th National Conference on Scientometrics and The Internet of Things **2016**
 - Graduate student scholarship for 2 years from Ministry of Human Resource Development, India (Rs 2,50,000) **2014**
 - Excellence Award, Hewlett Packard GDIC for Enterprise Risk Management project (Rs 25,000) **2006 & 2008**

PROFESSIONAL ACTIVITIES

Member of Program Committee

- *44th International IEEE/ACM Conference on Software Engineering* **2022**
Organizing and reviewing tool track papers
- *26th International Working Conference on Requirement Engineering: Foundation for Software* **2020**
Organized and reviewed tool track papers
- *IEEE Computer Society Signature Conference on Computers, Software and Applications* **2018 - present**
Reviewed three papers from Data Analytics track every year

Reviewer

- *International Conference on Modeling, Machine Learning and Astronomy, Bangalore, India* **2019**
- *ACM/IEEE International Symposium on Empirical Software Engineering and Measurement* **2018**

Research mentor

- Mentored following Master's students and undergraduate summer interns from Department of Computer Science and Electrical Engineering and Haskayne School of Business, University of Calgary, Canada
 - * Jeeshan Chougale (Summer intern, Dept. of Electrical and Software Engg, 2021)
 - * Rishabh Ruhela (Summer intern, Dept. of Electrical and Software Engg, 2021)
 - * Saipreetham Chakka (Graduate student, Dept. of Electrical and Software Engg, 2021)
 - * Fatemeh Delkhosh (Graduate student, Haskayne School of Business, 2021)
 - * Behnaz Sheikhi (Graduate student, Dept. of Electrical and Software Engg, 2021)
 - * Dylan Lachou Zotegouon (Graduate student, Dept. of Electrical and Software Engg, 2021)
 - * Atharva Naik (Summer intern, Dept. of Electrical and Software Engg, 2020)
 - * Venessa Chen (Summer intern, Dept. of Electrical and Software Engg, 2020)
 - * Ikarajyot Kamra (Graduate student, Dept. of Electrical and Software Engg, 2020)
 - * Teddy Kalp (Undergraduate student, Dept. of Computer Science, 2020)
- Mentored 10+ undergraduate students from Department of Computer Science, PES school of Engineering, Bangalore, India, while working as a Research associate

INVITED TALKS

- **Applications of NLP and ML in Requirements Dependency Extraction** **March, 2022**
Addressed 100+ students from Department of Electrical and Software Engineering, University of Calgary, Canada
- **C++ applications in real-world and computational science** **Jan, 2021**
Addressed 100+ students from Department of Electrical and Electronics, Dayanand Sagar College of Engineering, Bangalore, India
- **Keynote: Introduction to Big Data and Hadoop** **Aug, 2016**
Distinguished guest for a Technical forum inauguration, Dr. Ambedkar Institute of Technology, Dept of Master of Computer Applications, Bangalore, India

TECHNICAL SKILLS

Skills: Scientific research, Data Analysis, Leadership & Training, Project Management, Team incubation, Predictive modeling and analytics

Languages: Python, C, C++, Java, MATLAB, Java script, L^AT_EX

Bigdata stack: Neo4j Graph database, MongoDB, Apache Hadoop, Apache Spark, MapReduce, AWS, Linux

Libraries: Pandas, SciKit-Learn, Numpy, Gensim, Scipy, NLTK, BeautifulSoup, Matplotlib

Developer Tools: Jupyter, Google Colab, Tableau, VS Code, Visual Studio, Eclipse, Git, GDB, Ladebug

- [J5] **Gouri Deshpande**, Guenther Ruhe & Chad Saunders *How Much Data Analytics is Enough? The ROI of Machine Learning Classification and its Application to Requirements Dependency Classification* Springer Nature Journal for Computer Science, 2021 (**Submitted**)
- [J4] Suryoday Basak, Archana Mathur, Abhijit Jeremiel Theophilus, **Gouri Deshpande** & Jayant Murthy, *Habitability classification of exoplanets: a machine learning insight* The European Physical Journal Special Topics 2021
- [C10] **Gouri Deshpande**, Behnaz Sheikhi, Saipreetha Chakka, Dylan Valentin Lachou Zotegouon, Navid Masahati, Guenther Ruhe, *Is BERT the New Silver Bullet? - An Empirical Investigation of Requirements Dependency Classification*, 8th International Workshop on Artificial Intelligence for Requirements Engineering, Canada, 2021
- [C9] **Gouri Deshpande**, Guenther Ruhe, *Beyond Accuracy: ROI-driven Data Analytics of Empirical Data*, 13th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM), 2020 (**Best paper**)
- [C8] **Gouri Deshpande**, Quim motger, Cristina Palomares, Ikagarjot Kamra, Xavier Franch, Guenther Ruhe and Jason Ho, *Requirements Dependency Extraction by Integrating Active Learning with Ontology-Based Retrieval*, IEEE 31th International Requirements Engineering Conference (RE) 2019
- [C7] Ralph Samer, Alexander Felfernig, Martin Stettinger, Muesluem Atas, Guenther Ruhe and, **Gouri Deshpande**, *New Approaches to the Identification of Dependencies between Requirements*, International Conference on Tools with Artificial Intelligence (ICTAI), Portland, 2019
- [C6] **Gouri Deshpande**, Chahal Arora, Guenther Ruhe, *Data-driven Elicitation and Optimization of Dependencies between Requirements*, IEEE 29th International Requirements Engineering Conference (RE) 2019, Jeju, South Korea
- [C5] **Gouri Deshpande**, *SReYantra: Automated Software Requirement Inter-dependencies Elicitation, Analysis and Learning*, 41st International Conference on Software Engineering 2019, Montreal, Canada
- [C4] **Gouri Ginde**, Jon Rokne, *User Feedback from Tweets vs App Store Reviews: An Exploratory Study of Frequency, Timing and Content*, 5th International Workshop on Artificial Intelligence for Requirements Engineering 2018, Canada
- [C3] **Gouri Ginde**, *Visualisation of massive data from scholarly Article and Journal Database: A Novel Scheme*, International Conference on Recent Innovative Trends in Computer Science and Applications (ICRITCSA 2016), pages 1-5, October 2016, arXiv:1611.01152
- [C2] **Gouri Ginde**, Snehanshu Saha, Chitra Balasubramaniam, Harsha R.S, Archana Mathur, B.S. Daya Sagar, Anand M N, *Mining massive databases for computation of scholastic indices - Model and Quantify internationality and influence diffusion of peer-reviewed journals*, Proceedings of the Fourth National Conference of Institute of Scientometrics, SIoT, August 2015 (**Best Paper**)
- [C1] Snehanshu Saha, Avantika Dwivedi, Nandita Dwivedi, **Gouri Ginde**, Archana Mathur, *JIMI: Journal Internationality Modeling Index-An Analytical Investigation*, Proceedings of the Fourth National Conference of Institute of Scientometrics, SIoT, August 2015
- [J3] Archana Mathur, Snehanshu Saha, Saibal Kar, **Gouri Deshpande**, and A.Sinha, *SES-RREF: The Machine Learning Approach to Credible Metrics of Scholastic Evidence via Recursive Referencing*, Journal of Scientometric Research, 2019
- [J2] **Gouri Ginde**, Snehanshu Saha, Archana Mathur, Harsha Vamsi, *Use of NoSQL database and visualization techniques to analyze massive scholarly article data from journals*, Journal of Scientometric Research (Wolter-Kluwer)
- [J1] **Gouri Ginde**, Snehanshu Saha, Archana Mathur, Sukrit Venkatagiri, Sujith Vadakkepat, Anand Narasimhamurthy, B.S. Daya Sagar, *ScientoBASE: A Framework and Model for Computing Scholastic Indicators of non-local influence of Journals via Native Data Acquisition algorithms*, Journal Scientometrics, pages 1-51, June 2016
- [B1] **Gouri Ginde**, Rahul Aedula, Snehanshu Saha, Sudeepa Roy Dey, Gambhire Swati Sampatrao, Archana Mathur, BS Daya Sagar, *Big Data acquisition, preparation and analysis using Apache foundation frameworks*, for the book, "Bigdata Analytics: Tools, Technology for Effective Planning" published by CRC Press/Taylor & Francis Group (**Book Chapter**)