Nimitha Gopinath

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RESEARCH INTERESTS

I'm interested in how organizations and teams navigate silos, and how technology can support trust building, knowledge sharing, and effective collaboration. I focus on sociotechnical systems, especially those involving human and AI interaction and the social rituals that shape coordination. I use field experiments and mixed methods research to study these dynamics in organizational settings where cross boundary work is critical.

EDUCATION

M.Eng (Engineering Science)	Simon Fraser University, Canada	2022-2024
M.Tech (Power Electronics)	APJ Abdul Kalam Technological University, India	2016-2018
B.Tech (Electrical Engineering)	Calicut University, India	2012-2016

RESEARCH EXPERIENCE

Research Assistant **2025 –Present**

Supervisor: Prof. Rekha Krishnan
Beedie School of Business, Simon Fraser University | Burnaby, British Columbia

- Contributed to and helped shape a theory-driven research project on AI-enabled cross-silo collaboration as part of the AI for Organizations Grand Challenge (Stanford University + Google DeepMind).
- Co-design a socially intelligent AI system that combines expertise matching with ideas from interaction ritual theory, with the goal of making cross-team outreach easier and less socially costly.
- Design a four-condition field experiment to study how different AI-mediated introductions and bonding mechanisms influence helping behavior, generalized exchange, and collaboration patterns across organizational units.
- Interviewed organizational leaders to understand what makes cross-team collaboration difficult, such as trust issues or lack of visible expertise and used those insights to help shape the design and experimental structure of the AI collaboration system.

TEACHING EXPERIENCE

Assistant Professor – Electrical & Electronics Engineering **July 2019 – November 2021**
Rajadhani Institute of Science and Technology | Kerala, India

***Courses Taught*:** Management & Organizational Studies, Machine Learning, Python Programming, Digital Signal Processing, Circuits and Networks, Network Theory

Research Mentorship & Project Supervision:

- Supervised 10+ undergraduate capstone projects including hands-on builds in automation and IoT, as well as machine learning tools for real-world engineering problems
- Mentored students through research design, data collection, analysis, and presentation of findings to both technical and non-technical audiences
- Guided teams to turn practical challenges into clear research questions while considering stakeholder needs and practical constraints

Administrative Leadership:

- Acting Head of Department (2 months): Managed daily department operations, including scheduling faculty and planning course offerings
- Organized three technical conferences (300+ participants) that brought together students, faculty, and industry professionals to share knowledge and build connections

Teaching Assistant **January 2022 – January 2024**
Simon Fraser University | Burnaby, British Columbia

- Led laboratory sessions for Electronic System Design (ENSC 425), supporting 200+ students in design methodology, troubleshooting, and technical communication
- Supported instruction and assessment across five undergraduate engineering courses: ENSC 350 (Digital Systems Design), ENSC 425 (Electronic System Design), ENSC 204 (Graphical Communication for Engineering), ENSC 416 (Engineering Electromagnetics II), ENSC 426 (High Frequency Electronics).

Teaching Assistant **January 2016 – January 2018**
APJ Abdul Kalam Technological University | Kerala, India

- Mentored student teams on engineering projects by helping them define problems, build workable solutions, and present their outcomes in class and college showcases.
- Supported instruction for undergraduate courses including Python Programming, Machine Learning (introductory), Digital Image Processing, Professional Ethics, and core Electrical & Electronics Engineering laboratory courses.

PUBLICATIONS

Peer-Reviewed Book Chapter

- Gopinath, N., Athira, M., Nair, A. T., Namboothiri, K., & Haritha, K. S. (2022). *Multiple face detection, tracking, and recognition from video sequence*. In *Intelligent Data Communication Technologies and Internet of Things* (pp. 359–371). Springer Nature Singapore. https://doi.org/10.1007/978-981-16-7610-9_26

Journal Articles

- Gopinath, N., Paul, A. M., Aswathi, S., Thilakan, N., & Paul, L. (2018). *High gain single-stage boosting inverter for alternative energy generation*. **International Journal of Scientific Research**, 7(4), 744–749.
- Gopinath, N., & Kumar, C. P. (2018). *Design and implementation of a new converter topology for electrosurgical units*. **IOSR Journal of Electrical and Electronics Engineering**, 13(3), 52–60.
- Gopinath, N., & Kumar, C. P. (2018). *MATLAB/Simulink model of a high-frequency converter for electrosurgical generators*. **IOSR Journal of Electrical and Electronics Engineering**, 13(2), 29–35.
- Gopinath, N., Kumar, C. P., & Aswathi, S. (2018). *High-frequency converter for magneto-fluid hyperthermia*. **IOSR Journal of Electrical and Electronics Engineering**, 13(1), 58–65.
- Gopinath, N., & Aswathi, S. (2017). *Dual-output power management unit for a PV–battery hybrid energy system*. **International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering**, 5(Special Issue 1). *(Extended version of conference paper).*

Selected Conference Presentations

- Gopinath, N. (2016, November). *A switching scheme for extracting maximum power from PV array under partial shading condition*. 27th Annual State Convention and Seminar (ISTE), India.
- Gopinath, N. (2017, March). *Extracting maximum power from PV array under partial shading condition*. IETE Engineering Student Convention, India.
- Gopinath, N. (2016, November). *A better and cheaper solution for power augmentation issues in Kerala*. International Conference on Engineering and Technology for Sustainable Development, India.
- Gopinath, N. (2017). *Dual-output power management unit for a PV–battery hybrid energy system*. National Conference on Recent Advances in Engineering and Technology, LBS College of Engineering, India.

ENTREPRENEURSHIP

Founder **2025 – Present**
AI Mentor Hub | Burnaby, British Columbia

- Designed and deployed an AI-powered career guidance platform using Flask and large language models to deliver personalized course and study recommendations
- Built full-stack application with dynamic dashboards and modular architecture serving 50+ beta users
- Investigated adoption friction and trust dynamics in AI-mediated mentoring, informing current research on AI-enabled organizational collaboration

METHODS & RESEARCH SKILLS

Empirical & Research Methods: Field experiments, qualitative interviews, survey design, behavioural analysis, mixed-methods research design

Technical Skills:

- Programming & ML: Python (Pandas, NumPy, scikit-learn, PyTorch, TensorFlow), SQL
- AI/NLP: Natural language processing, RAG, semantic search, Hugging Face Transformers
- Development: Flask, Git/GitHub, Docker, cloud deployment
- Data & Visualization: Statistical analysis, data visualization (Matplotlib, Seaborn, Tableau)

AWARDS & HONORS

- **First Prize**, Paper Presentation, **NSITE 2K16 National Technical Symposium** (2016).
- **First Place**, **KSEB District-Level Technical Seminar Series** (Kerala State Electricity Board), **IEEE Kerala Chapter** (2016).
- **Top-Ranked Student**, Master's Program (CGPA: **9.0/10**) (2018).
- **Academic Excellence Awards** (2016–2018).

INVITED TALKS

- **Nested Learning** | Vancouver AI Community, Vancouver, Canada, 2025.
- **AI Mentor Hub: An AI-Enabled Mentoring and Learning Platform** | Show & Tell invited talk, **Vancouver AI Community**, Vancouver, Canada, 2025.

ACADEMIC SERVICE AND COMMUNITY

AI Community Builder & Project Contributor **2025 – Present**
Vancouver AI Community | Vancouver, British Columbia

- Contribute to a research-oriented builder community through co-working sessions and technical events; provide peer feedback and support project iteration.
- Co-developed applied AI prototypes (Flask; Hugging Face Transformers) and supported community demos and user feedback.

PROFESSIONAL SOCIETIES

Executive member of IEEE Student Branch, Canada Chapter **2024- Present**

REFERENCES

Dr. Rekha Krishnan, Professor, Beedie School of Business, Simon Fraser University, Canada, rekhak@sfu.ca
Dr. Praveen Kumar C, Assistant Professor, NSS College of Engineering, India, praveenkumar@nssce.ac.in