

RUSHENDRA SIDIBOMMA

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📄 [rushendra10.github.io](https://github.com/rushendra10)

EDUCATION

University of Minnesota Twin Cities

MS Computer Science

Sep 2025 – May 2027 (Expected)

Minneapolis, MN

Indian Institute of Information Technology, Sri City

Bachelor of Technology in Computer Science (*Honours*) - GPA : 9.57/10

Dec 2020 – July 2024

Sri City, India

TECHNICAL SKILLS

Programming and Scripting: Python, C/C++, JavaScript, SQL, MATLAB, LaTeX, Bash Scripting

Tools & Technologies: Linux, AWS, Azure, Git, Docker, Bash, On-prem LLM Hosting, Statistical Modeling, Databases

Frameworks & Libraries: PyTorch, Django, FastAPI, Transformers, OpenCV, NumPy, Pandas, Matplotlib

EXPERIENCE

AutomationEdge Technologies

Machine Learning Research Engineer

Jan 2024 – July 2025

Pune, India

- Developed a **GenAI-based document analysis tool** to extract critical details from medical documents and support decision-making in home health agencies. Improved patient intake by **30%** while reducing operational costs by **60%**.
- Successfully deployed for **10+ leading agencies** across the United States and generated **\$200,000** in revenue.
- Built a large-scale medical coding automation system (**70k+** ICD codes), applying statistical modeling and feature engineering to optimize billing workflows. Reduced manual effort for coders by **30%**, directly optimizing revenue cycle.

Trustworthy AI Lab, Toronto Metropolitan University

Research Intern

May 2023 – June 2025

Toronto, Canada

- Proposed a **novel framework** to verify the robust accuracy of a model, achieving a **50% reduction** in time complexity compared to benchmark methods. Introduced a metric to **standardize** the comparison of model robustness.
- Cut robustness certification runtime in SDP verifiers by **47%** ($\leq 2\%$ error) via a novel relaxation of ReLU constraints.

Eyemote Vision Inc.

AI Engineer Intern

Aug 2023 – Jan 2024

Remote

- Conducted exploratory data analysis on highly imbalanced medical datasets, engineered features, and developed deep learning ensembles (**CNNs + ViTs**) to stratify patient risk levels. Delivered an **MVP** with **87%** accuracy on real data.
- Collaborated with ophthalmologists to define clinically aligned evaluations, ensuring compliance with healthcare standards.

PROJECTS

Knowledge Management Service | *Django, Retrieval Augmented Generation (RAG), Microsoft Azure*

April 2024

- Developed a **multi-tenant RAG chatbot** using **on-prem LLMs** to address queries about company and HR policy.
- Identified **high-impact features** and redesigned the indexing schema, improving chunk retrieval quality by **30%**.
- Conducted **A/B experiments** to test impact of schema changes; measured **8%** increase in query resolution rate with statistical significance ($p \leq 0.05$).

Intelligent Email Ticketing and Service Automation System | *LLMs, Model Distillation,*

Aug 2024

- Distilled GPT-4o's reasoning into a lightweight **T5-base model** (220M params) for classifying **20+** IT service request categories. Achieved an **on-premise** solution with **low-latency CPU inference**, matching GPT's **93% accuracy**.
- Automated IT ticket routing and workflow execution, eliminating manual triaging and reducing resolution time by over **60%**, scaling to hundreds of requests daily.

PUBLICATIONS

- M. Maleki, **R. Sidibomma**, A. Adibi, R. Samavi. **Cascading Robustness Verification: Toward Efficient Model-Agnostic Certification.** (Under review at **NeurIPS 2025**)
- Sidibomma, R.**, Patwa, P., Patwa, P., Chadha, A., Jain, V. and Das, A., 2025, January. **LLMsAgainstHate@ NLU of Devanagari Script Languages 2025: Hate Speech Detection and Target Identification in Devanagari Languages via Parameter Efficient Fine-tuning of LLMs.** In Proceedings of the First Workshop on Challenges in Processing South Asian Languages (CHiPSAL 2025) (pp. 301-307). ([Link](#))
- R. Sidibomma** and R. K. Sanodiya, “**Learning Semantic Representations and Discriminative Features in Unsupervised Domain Adaptation,**” 2023 11th International Symposium on Electronic Systems Devices and Computing (ESDC), Sri City, India, 2023, pp. 1-6, doi: 10.1109/ESDC56251.2023.10149872. ([Link](#))

HONORS & AWARDS

- Awarded the MITACS fellowship worth CAN\$9,000 for a 12-week assistantship in Canada
- Ranked **2nd** out of **212 students** in the Computer Science Department (by GPA)
- Graduated with **Honours** (Recognized for high academic standing and successful thesis defense)

LEADERSHIP ROLES

President, Epoch - The AI/ML Club

July 2024 – July 2023

- Mentored **20+ students** in research and professional development by guiding them on certifications, online presence, alumni connections, and internships, fostering **long-term career growth**.
- Established **peer-to-peer** support groups to promote collaboration and knowledge-sharing. Delivered **15+** lectures on ML to an audience of **200+ students** and organized workshops featuring faculty members and industry experts.

Chair, Model United Nations - Chapter I

July 2024 – July 2023

- Organized and chaired the institute's inaugural Model United Nations (MUN) conference, engaging **50+ delegates**
- Led a preparatory workshop for first-time participants, explaining MUN protocols and procedures to help them actively engage in the conference.