

Education

Master of Science in Applied Computing - AI Concentration

Sept 2025- Present

University of Toronto

Courses: Computational Imaging, Topics in Machine Learning: AI for Drug Discovery, Visual and Mobile Computing Systems and Neural Networks and Deep Learning

Bachelor of Engineering in Computer Science and Engineering

July 2019-June 2023

Thapar Institute of Engineering and Technology, India

CGPA 9.34/10

Minor: Edge AI and Robotics (by NVIDIA)

Work Experience

NXP India - MME Header Engineer

Noida, India | July 2023 - March 2024

- Under the Microprocessor and Microcontroller Engineering (MME) Department, developed C/C++ based memory-mapped register header files, implemented interrupt handling and generated SVD files for over 6 microprocessor and microcontroller engineering projects.
- Streamlined the automated revision history creation process, reducing a two-day effort to just a few clicks. Additionally, optimized interrupt creation workflows for improving resource utilization, resulting in a significant error rate reduction of up to 30% using python scripts.

NXP India - Technical Intern

Noida, India | Jan 2023 - July 2023

- Worked on MME Header workflow for 4 different Systems on Chips.
- Delivered quality headers to end-customers as basic support of the chips and to internal teams like Validation, RTD, Systems, Design Studio and Software.

Skills

Programming: Python | C/C++ | Dart | HTML | CSS | Javascript | React | LaTeX | MATLAB | SQL

Machine Learning: Numpy | Pandas | PyTorch | TensorFlow | Scikit-learn | OpenCV | LangChain | TensorRT

Tools & Technologies: Flutter | Android Studio | Firebase | Git/GitHub | Jira | MySQL | PostgreSQL | MongoDB

Projects

Insight Graph Web Application

- Developed a data analysis system using Knowledge Graphs, OpenAI, and Google Gemini LLM to handle complex queries, uncover hidden relationships, and provide AI-powered insights and real-time graph visualizations.
- Integrated Neo4j for advanced query handling and optimized and made system performance more efficient with the usage of caching and session state.

Research IQ - RAG (Retrieval-Augmented Generation) Application

- Developed an application to simplify the research process by enabling users to enter research keywords and ask complex queries related to any research topic.
- Integrated Mistral Large 2 LLM to process multimodal data, leveraged cortex search for retrieval and Snowflake to store chunks of data including images, mathematical equations, and text.

QuickAid - Hardware device, Android and iOS Application

- QuickAid is an motorcycle accident detection and alert system, created using Flutter, Django and Machine Learning. In case, a registered user's vehicle meets an accident, an alert will be automatically sent to nearby authorities and the user's emergency contacts for immediate assistance, thereby significantly reducing response time to less than 30 seconds.