Swapnil Mittal

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Education

Georgia Institute of Technology Expected Graduation : December 2025

Bachelor of Science in Computer Science *GPA : 3.70*

- Concentration : Intelligence & Information Networks (Dean's List)
- Relevant Coursework: DSA, Analysis of Advanced Algorithms, Machine Learning, Computer Architecture

Technical Skills

Languages: Java, Python, C++, SQL, JavaScript, HTML/CSS, R, Bash
Frameworks and Libraries: VIKTOR, TensorFlow, MySQL, MongoDB, Docker, Node.js, Flask, Pandas, Keras
Tools and Platforms: Github, Azure DevOps, Gitlab, PyCharm, CLion, VSCode, Eclipse, Agile (Scrum)

Experience

Kellogg Brown and Root (KBR) May 2024 – Aug. 2024

Software Engineering Intern *Houston, TX*

- Developed advanced engineering solutions using Python and VIKTOR, integrating seamlessly with MATLAB, CAD, and RFEM to enhance workflows and computational accuracy
- Drove innovation and streamlined processes with interdisciplinary teams using agile methodologies, strategic automation, and effective debugging, leading to a 17% productivity increase in using empoyees' tasks

Clyd AI November 2023 – Present

Co-founder *Atlanta, GA*

- Spearheaded the creation of Clyd.ai, an AI-powered dashboard designed to enhance consultant-client interactions
- Achieved a $3 million valuation at the seed round, scaling to over 150 customers during the private beta phase
- Developed Clyd.ai's backend using Langchain for data indexing, Cohere for reranking, RAG for contextual comprehension, Pinecone for vector search, and implemented a citation engine query system to mitigate data hallucination

NextLink Limited May 2023 – Aug. 2023

Software Engineering Intern *HongKong*

- Headed the development of inventory management software, leading to a 30% increase in operational efficiency
- Implemented Django for CRUD operations, React for an in-house GUI, and Azure SQL database for optimized tracking of textile inventory, including new categories, POs, and shipments received and sent
- Introduced AHP scores, and blob storage for product images, records of vendor history & Product Quality Index

Nekstron Control and Automation May 2022 – September 2022

Software Engineering Intern *Delhi, India*

- Developed DLMS in Java for PULL/PUSH with GPRS/NB-IoT, created RESTful API for MDM
- Designed a React interface and set up data pipelines with Kafka & Spark, scaled CI/CD with Kubernetes & Docker

Projects

RUL Prediction | *Python, Pytorch, Flask* February 2024 – May 2024

- Developed a Transformer model in PyTorch for RUL prediction, reducing RMSE from 61.12 to 22.95 in 4 epochs
- Normalized CMAPSS sensor data; created a Flask API for real-time predictions and external system integration
- Utilized multi-head attention and convolutional layers, reducing machinery downtime for remaining life prediction by 4.6

LiDAR Locomotive @ GaTech | *Python, ROS, Gazebo* January 2024 – August 2024

- Developed a robotics simulation framework with ROS and Gazebo for vehicle dynamics & sensor data processing
- Engineered real-time control systems, converting ROS Twist messages to Ackermann steering using Python/C++
- Designed dual-Arduino setups and advanced LiDAR algorithms for autonomous navigation with robust sensor integration and real-time feedback

Thread-Safe Cache Library | *C++, Doxygen, gtest* December 2023 – March 2024

- Developed a thread-safe C++ cache library supporting LRU, FIFO, and LFU policies, ensuring high performance
- Integrated extensive testing frameworks and automated documentation with Doxygen for quality assurance
- Enhanced library flexibility by allowing integration of user-defined HashMap implementations