

Anushka Saini

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GitHub · Personal Website

Education

B.Tech in Electronics and Communication Engineering 2024–2028
International Institute of Information Technology, Hyderabad
CGPA: 8.9 / 10
SGPA: Sem 1 – 8.3, Sem 2 – 8.9, Sem 3 – 9.4

Experience

Chubb June 2025 – July 2025
Software Engineering Intern

- Worked on backend API integration for an internal enterprise chatbot used across teams.
- Developed an image-to-text extraction pipeline to enable chatbot interaction with scanned documents.
- Applied OCR-based techniques to convert unstructured image inputs into structured textual data.
- Collaborated with engineers across teams to integrate extracted content into downstream chatbot workflows.

Projects

Systems Programming Projects (C, Linux) `code`

- Implemented a command-line shell in C with support for process creation, basic I/O redirection, and signal handling.
- Developed socket-based client-server applications to understand network communication and concurrent request handling.
- Modified scheduling behavior in the xv6 operating system to study the impact of different policies on process execution.

Relational Database Applications `code`

- Designed relational schemas in MySQL for structured datasets involving multiple entities and relationships.
- Implemented SQL queries to support aggregation, filtering, and reporting use-cases.
- Explored normalization trade-offs and their impact on query complexity and maintainability.

Conversational AI Pipeline `code`

- Built a conversational backend capable of maintaining dialogue context across sessions.
- Integrated an open-source language model to extract sentiment-related signals from user conversations.
- Implemented basic rule-based logic to flag conversations requiring human review.

Arduino-to-Arduino Bluetooth Safety System `code`

- Designed a low-cost embedded system for real-time obstacle detection using ultrasonic sensing.
- Implemented wireless serial communication between two Arduino boards using HC-05 Bluetooth modules.
- Integrated threshold-based logic to trigger remote audible alerts for collision prevention.

Technical Explorations

Machine Learning (Exploratory)

- Implemented supervised learning models including linear and logistic regression using NumPy and scikit-learn for prediction and classification tasks.
- Built and trained neural networks using TensorFlow for multi-class classification problems.
- Implemented core neural network components from scratch to understand backpropagation, loss functions, and training dynamics.
- Applied model evaluation and generalization techniques to analyze performance across different datasets.

Leadership Experience

- Contributed to securing **7.5 lakh** in sponsorship funding for Megathon, Hyderabad's largest student-run hackathon.
- Took responsibility for organizing and conducting multiple events across campus, coordinating logistics and student teams.

Relevant Coursework

Data Structures and Algorithms, Probability and Random Processes,
Linear Algebra, Real Analysis, Information and Communication, Database Management

Technical Skills

- **Programming:** C, C++, Python
- **Systems:** Linux, POSIX, Process Management
- **Databases:** MySQL, Relational Schema Design, SQL
- **ML Tools:** PyTorch, NumPy
- **Tools:** Git, Bash, gdb