

BASSAM ADNAN

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Summary

Dual-degree Computer Science student from IIIT Hyderabad with two-time selection for Google Summer of Code. Possesses a strong foundation in systems programming and a proven ability to architect and deliver robust, end-to-end software solutions. Eager to take on challenges and contribute with impact in fast-paced environments.

Education

International Institute of Information Technology, Hyderabad

Expected May 2027

Dual Degree (B.Tech + MS) in Computer Science and Engineering: CGPA - 8.92/10.0

Hyderabad, India

Indian Institute of Information Technology, Pune

Lateral Entry to IIITH –May 2023

B.Tech in Computer Science and Engineering: CGPA - 8.07/10.0

Pune, India

Experience

Research Assistant – Software Engineering Research Center (SERC)

May 2025 – Present

- Collaborating with MontyCloud on LLM Traceability solutions (e.g., LangSmith, Prompt Flow), and enhancing memory solutions for LLM agents in the MOYA framework using modern libraries like Mem0 with graph-based memory storage.

Google Summer of Code'25, PostgreSQL – Contributor | [Project](#) | [Certificate](#) May 2025 – Nov 2025

- Developed extension support for `pgexporter`, a Prometheus exporter for PostgreSQL. Designed and implemented extension detection and semantic versioning support and load queries which would be sent to the metrics endpoint.
- Removed `libcurl` dependency from `pgmoneta`, using a home-grown HTTP suite for storing backups on Azure, S3. Restored MacOS (Darwin) support in `pg_top` and integrated a DuckDB receiver in remote sinks of `pg_watch`.

Google Summer of Code'24, PictoPy – Contributor | [Project](#) | [Certificate](#) May 2024 – August 2024

- Built a desktop app with object tagging and facial recognition feature. Architected and implemented the entire backend from scratch, including the database schemas, RESTful APIs to orchestrate multiple ML model interactions.
- Optimized model performance for CPU machines by using ONNX runtime to load and run the models, mitigate the overhead by avoiding libraries like PyTorch or Transformers, reducing the environment size by 80%.

Software Intern – Smart City, IIITH

June 2024 – August 2024

- Worked on OneM2M standard based IoT-software intended for prototyping smart objects on a large scale within a population. The leading Smart City Lab in India with support from MEITY (Government of India).
- Added feature of bulk importing multiple nodes on ctOP. Main work entailed development of RESTful APIs.

SWE – Product Design Management Labs [PDM](#)

January 2024 – April 2024

- Team collaboration effort to engineer a Chat Application for Doctors, enabling real-time assistance to EMTs present in ambulances. The application included features for displaying live patient vitals for constant monitoring.
- Tech Stack - MERN, GraphQL, React Hooks for GraphQL on Apollo Client/Server, Socket Programming (socket-io).

Projects

gRPC-Based Distributed Applications | [GitHub](#) | *Go, gRPC, Load Balancing, Distributed Systems*

- Implemented a suite of applications using gRPC in Go. This included building an Uber application with support for multiple servers, driver and customer clients, built with load balancing techniques such as Round Robin or Weighted sampling. Built the logic for concurrent access across different servers for updating the system state.
- Developed a collaborative document text editor using gRPC with a central server and multiple clients. Mode of data transfer primarily in gRPC streams, using CRDT data structures.

CoinDCX Trading Engine | [GitHub](#) | *Go, Finance*

- Real-time arbitrage trading system built in Go using concurrent goroutines to detect opportunities across 800+ cryptocurrency pairs on CoinDCX. Built logic for depth analysis to validate the pair-gap while managing API rate limits (2000 req/hour). Features automatic recovery mechanisms and risk management with configurable stop-loss thresholds.

Technical Skills

Languages: Go, Python, C++, C, JavaScript, SQL, GraphQL

Technologies: gRPC, Linux, Git, PostgreSQL, MERN, FastAPI, PyTorch, Docker, Postman

Achievements and Extracurricular

Dean's List Awardee: Recognized every year as a top-performing student at IIIT Hyderabad.

Research Publications: I have works accepted in ICSE ([Link](#)), ICSE ([Link](#)), NeurIPS ([Link](#)) workshops.

HackIIIT Hackathon'24: Award Winner for developing a course-review website

MontyCloud Hackathon'25 [[Link](#)]: Prize winner for extending their Agentic Framework.