

# Avanteesh Motheram

 avanteesh.dev@email.com |  Avanteesh |  Avanteesh Motheram

## SKILLS

**Programming Languages:** Python, JavaScript (ES6+), C, Bash, Elixir, Kotlin.

**Systems, Backend and Performance Engineering:** Experience with scalable backend services, REST APIs, RPCs, concurrency, and performance optimization.

**Frameworks and Tools:** FastAPI, Express.js, Phoenix, Git, Docker, Linux.

**Databases and Storage:** MySQL, SQLite3, Redis, Cassandra.

**Frontend:** Vanilla JavaScript, familiarity with React/Vue, growing Kotlin frontend expertise.

## PROJECTS

### Developed Metaverse.com – A club registration website

- Designed and developed a full-stack platform enabling university students to register for clubs and showcase their talent portfolios.
- Built a responsive React frontend with reusable UI components, modular state management, and lazy-loading to improve performance, further more Implemented Firebase Auth for secure email-based onboarding and JWT session handling.
- Collaborated closely with the student club lead to translate functional requirements into technical tasks and deliver milestones.
- Deployed and maintained production environment on Render.com, ensuring reliable uptime and smooth rollouts.

### Miniature Redis Clone

- Designed a Simplified in-memory key-value store in Python.
- Built a Database Server and a Client that Consists of with REPL CLI (Read evaluate print loop). Implemented all basic functionalities and Data structures like lists and queues.
- Explored request parsing, memory management trade-offs, and basic concurrency handling.
- Evaluated design trade-offs compared to Redis, including persistence, replication, and scalability limitations.

### Shell AI Agent

- Built an AI-powered shell assistant using LangGraph and LangChain to translate natural language into executable system commands.
- Implemented command validation and safety guardrails to prevent destructive operations and ensure controlled execution.
- Designed cross-platform support (Linux, macOS, Windows) by abstracting OS-specific command handling.
- Integrated external tools for automated news summarization and real-time planetary tracking via structured tool-calling workflows.

### Mini Programming Language / Transpiler

- Designed and implemented a custom transpiler converting a TypeScript-like syntax into executable Python code.
- Built a lexical analyzer and parser to generate an Abstract Syntax Tree (AST), followed by a code generation phase targeting Python.
- Implemented basic static analysis including syntax validation and lightweight linting for semantic consistency.

## CERTIFICATIONS

### The Bits and Bytes of Computer Networking Google (2024)

Foundation in network protocols, routing, DNS, IP addressing, troubleshooting.

## EDUCATION

---

### **Lovely Professional University**

*Bachelor of Technology in Computer Science*

Aug. 2023 – July 2027

Jalandhar, Punjab

- **Coursework:** Data Structures and Algorithm, Databases, Operating Systems, Math for ML, Supervised ML.

### **Meluha International School**

*High School*

—  
Manikonda, Hyderabad