

Avanteesh Motheram

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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 <i>Bachelor of Technology in Computer Science</i> <ul style="list-style-type: none">• Coursework: Data Structures and Algorithm, Databases, Operating Systems, Math for ML, Supervised ML.	Aug. 2023 – July 2027 Jalandhar, Punjab
Meluha International School <i>High School</i>	— Manikonda, Hyderabad