Denisha Madhura

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About Me

Software Developer focused on building high-performance infrastructure and building intelligent systems using **Go** and **Rust**. Bridging low-level computational efficiency with **AI development**, including the creation of scalable machine learning pipelines and automation for cloud-native environments.

Experience

IIT BHU Feb 2025 – Present
AI Research Intern *Remote*

- **Clinical AI Integration:** Architecting an intelligent GUI designed to serve as a medical assistant, streamlining clinical workflows through seamless AI integration.
- **Neural Data Classification:** Researching the application of machine learning models for the classification of complex fMRI data to assist in the diagnosis of neurodevelopmental conditions.

Google Developers Group on Campus Sept 2025 – Present
Data Science Team Member *Chennai, India*

IEEE Computer Society Sept 2025 – Present
Technical Team Member *Chennai, India*

CodeChef VIT Chennai Chapter Jan 2025 – Present
Chennai, India

- **Social Media and Content Writing Lead** (Jun 2025 – Present)
- **Web Development Team Member** (Feb 2025 – Aug 2025)
- **Content Specialist** (Jan 2025 – Jun 2025)

Education

Vellore Institute of Technology, Chennai Campus Chennai, Tamil Nadu
B.Tech. in Computer Science and Engineering (Specialization in Cyber Physical Systems) *July 2024 – Aug 2028*

Indian Institute of Technology, Madras Chennai, Tamil Nadu
B.Sc. in Data Science and Applications (Online Degree Program) *June 2024 – May 2027*

Manav Rachna International School, Sector 14 Faridabad, Haryana
High School (CBSE) *April 2018 – April 2024*

Projects

Gosh - The Go Shell | *Go, Shell* Jan 2026

- **Developed a POSIX-compliant shell in Go**, implementing core system functionalities including process management, environment variable handling, and native support for Unix built-ins like cd, pwd, and type.
- **Engineered a robust command parser** capable of handling complex string logic, including single/double quoting and escaped characters, ensuring accurate argument processing for external binary execution.

Autonomous Driving Simulation with Genetic Algorithm | *JavaScript, Neural Networks* Sept 2025

- Engineered an end-to-end autonomous driving simulation, developing **from-scratch physics** (vector math) for realistic acceleration, braking, and steering.
- Developed and integrated a **custom neural network** as the car's "brain," processing real-time input from **virtual ray sensors** to control movement.

Assistive Robot for Visually Impaired | *Arduino, Sensor Integration* Jan 2025 – Apr 2025

- Developed the core sensing system by integrating **IR sensors for edge detection** and **ultrasonic sensors** for reliable obstacle avoidance.
- Enhanced user accessibility by integrating a voice command feedback mechanism using the **Google Text-to-Speech (TTS) API**.

Technical Skills

Languages: Python,Go, Rust C/C++, SQL (MySQL, Oracle, PostgreSQL, SQLite), Astro
Developer Tools: Git, Figma, Markdown, Neo4j, Postman, Google Cloud
Libraries: Pandas, NumPy, Matplotlib, Scikit-learn, React, Next.js, FastAPI