

Prasanna Ezhilmurugan

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Education

Vellore Institute of Technology, Chennai - 9.18 CGPA,
B.Tech Computer Science and Engineering(Artificial Intelligence and Robotics)

08/2023 – present
Chennai, India

Professional Experience

NLC India Limited, Full-Stack Intern

06/2025 – 07/2025
Neyveli, India

- **Independently developed an end-to-end asset management system** under the guidance of the Deputy Chief Manager (CSE Dept.), for tracking and maintaining electronic assets within a major operational unit.
- **Designed a fully normalized relational database schema** from scratch, implemented using Oracle SQL and PL/SQL, subcomponents, user access levels, and complaint logs.
- **Built dual-access web interfaces for staff and admins**, enabling asset registration, complaint filing, and privileged table modifications through role-based access.
- **Improved efficiency of asset and issue tracking**, creating a structured workflow for managing IT infrastructure and reducing manual overhead.

Skills

C++ | C | Java | CMake | Make | GDB | Valgrind | Linux | Numpy | Pandas | scikit-learn |
Python | Pytorch | Git | Shell Scripting | Go | Javascript | Typescript | SQL | Oracle DB | PHP

Projects

Chip-8 Emulator, C, SDL2 🌐

- **Built a fully functional CHIP-8 emulator from scratch in C**, with complete instruction decoding, memory management, and game loop control, to deepen understanding of legacy systems and low-level computing.
- **Integrated SDL to render 64×32 monochrome graphics**, overcoming challenges in display synchronization and pixel-level rendering for accurate game visuals.
- **Successfully ran classic CHIP-8 programs**, validating full opcode support, seamless ROM loading, and robust input handling across different game scenarios.

Linux Debugger (Mini-DB), C++

- **Developed a lightweight x86 debugger from scratch using C++ and ptrace**, to explore how binaries are executed and debugged at the system level in Linux.
- **Implemented core debugging features** including breakpoints, single-stepping, and memory inspection using low-level syscalls like ptrace, waitpid, and signal handling.
- **Handled challenges in memory inspection and address translation**, enabling reliable runtime state tracking and control over user-space programs.

Face Recognition System, Python, OpenCV, ESP32 🌐

- **Designed a real-time face recognition system** as part of an academic project to explore computer vision and IoT integration using OpenCV and ESP32.
- **Implemented real-time recognition and logging using Python and OpenCV**, with the ESP32 handling camera input and Wi-Fi-based data transmission.
- **Resolved challenges in latency and data transfer**, ensuring reliable real-time performance and consistent recognition accuracy during testing.

FinBooks, Next.js, Typescript, Tailwind Css, Node.js, PostgreSQL, Vercel 🌐

- **Built a full-stack business accounting app from scratch** to manage petty finances, customer records, and transaction logs, using Next.js, TypeScript, Tailwind, and PostgreSQL.
- **Implemented secure login, dynamic dashboards** for finance entries and customer data, with stat summaries for easy tracking.
- **Handled session management and API integration** on the backend (Node.js) and deployed the app on Vercel with a smooth, responsive UI.

Activities

Code for Good 2025 – JPMorgan Chase

- Selected among top 400 from 50,000+ applicants for national hackathon.