Aathil Nishad

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OBJECTIVE

Motivated Computer Science undergrad at PES University with hands-on experience in **machine learning**, **software development**, and **distributed systems**. Seeking to apply system-level thinking and problem-solving to real-world engineering environments.

CORE SKILLS

Python (Intermediate), **C** (Basic–Intermediate), **Java** (Basics), **MySQL**, **Machine Learning** (Basics), **Deep Learning**, **Frontend Development** (HTML/CSS/JS), **Data Structures & Algorithms**, **Git**, **Cloud Basics**

EDUCATION

PES University — Bangalore, Karnataka
BTech in Computer Science — GPA: 8.16/10 — 7th Sem — Grad: 2026

Narayana E-Techno Higher Secondary School — Bangalore, Karnataka
Computer Science Stream — Graduated with 90% — 2022

WORK EXPERIENCE

PESU Venture Labs — Bangalore, Karnataka
Frontend Developer — June 2025 – Aug 2025

- Engineered user-facing features that streamlined internal workflow communication, improving operational efficiency.
- Collaborated with design and backend teams to implement responsive and scalable **UI components**.
- Resolved front-end bugs and optimized performance to enhance responsiveness and stability.

PROJECT WORK

Capstone: Electric Grid Safety Enhancement using Deep Learning ***(LSTM, Forecasting, Reinforcement Learning)***

- Architected a predictive safety system for electric grids, leveraging an **LSTM Autoencoder** to create thresholds and **Arima Forecasting model** to accurately forecast potential faults and enhance grid reliability.
- Implemented a **Reinforcement Learning** agent to dynamically adjust fault detection thresholds, significantly reducing false positives and improving detection accuracy.

Kube-9: A Distributed Systems Cluster Simulation Framework ***(Python, Docker, Streamlit)*** [GitHub]

- Architected a distributed cluster simulation using **Docker** to containerize master/worker nodes, incorporating a **heartbeat mechanism** for real-time health monitoring.
- Engineered a **pod deployment and lifecycle management system**, supporting custom configurations, persistent volume mounts, and efficient node-based tracking.
- Developed an interactive **Streamlit dashboard** for real-time cluster state visualization and implemented **automated recovery protocols** for failed nodes and pods to ensure high availability.

Non-Invasive Online Proctor ***(Python, Go, Machine Learning)*** [GitHub]

- Engineered a lightweight **Go client** to non-intrusively monitor user activity and system events within a simulated online examination environment.
- Designed a **Python-based AI module** utilizing an **LSTM network** for real-time behavioral analysis to accurately identify and flag potential academic integrity violations.
- Architected an **event-driven pipeline** to efficiently stream client-side data to the AI analysis module and persistent logging services.

Yet Another Distributed Task Queue (YADTQ) ***(Big Data, Kafka, Redis)*** [GitHub]

- Developed a scalable distributed task scheduler utilizing **Kafka** for reliable message brokering and **Redis** for high-performance state management.
- Implemented a **dynamic scheduling algorithm** that allocates tasks based on real-time worker availability, optimizing for load balancing and resource utilization.
- Engineered a robust **fault-tolerance mechanism** featuring heartbeat-based failure detection and automated task reallocation to guarantee operational continuity.

Restaurant Management System ***(Python, MySQL)*** [GitHub]

- Engineered a comprehensive, full-stack restaurant management system using **Python** and **MySQL** to automate and streamline core operational tasks.
- Designed and integrated core modules for **table reservations**, **order processing**, and **automated billing** to enhance service efficiency.
- Developed an intuitive **command-line interface (CLI)** and a **reporting module** to generate operational insights, aiding in management decision-making.

CERTIFICATIONS

Problem Solving (Basic) — *HackerRank*, April 2024
PCEP — Entry-Level Python Programmer — *Python Institute*, 2024

AWARDS

Distinction Award — Semesters 1, 2, 5, and 6 *Issuer: PES University*

LANGUAGES

English (Proficient), **Malayalam** (Native), **Hindi** (Intermediate)