NIHAR MARAR

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Education

University of California, Irvine - Master of Computer Science   September 2025 – Dec 2026

University of California, Merced - B.S. Computer Science and Engineering   August 2021 – May 2025

- **Relevant Coursework:** Data Structures, Algorithm Design and Analysis, Database Systems, Machine Learning, Operating Systems, Full Stack Web Development, Advanced Linear Analysis, Statistics and Probability, UI/UX

Yonsei University, Seoul, South Korea - Computer Science   August 2023 – Dec 2023

- **Relevant Coursework:** Computer Networks, Human Computer Interaction

Skills

- Python, Java, Javascript, R, SQL, C, C++, Unity/C#, Gradio, NumPy, OpenGL, Pandas, React, Node.js, Tailwind CSS, HTML/CSS
- AWS (Sagemaker, S3), MATLAB, Microsoft Excel, MIPS Assembly, Godot/GDScript, Supabase, Shippo, HuggingFace, Docker

Experience

Machine Learning Engineer Intern, X10e   Jan 2025 - May 2025

- Developed a machine learning framework for traumatic brain injury analysis by building data pipelines that ingested 50k+ multimodal medical records into AWS SageMaker, optimize preprocessing time by 40% and trained our model to ~55% accuracy
- Implemented and benchmarked advanced ensemble models (XGBoost, CatBoost, LightGBM), improving predictive accuracy on neurological recovery outcomes by ~18% over baseline linear models, while providing decent interpretable SHAP value insights
- Containerized the end-to-end workflow with Docker from Gradio and automated retraining on updated datasets, with an additional web scraping feature, cutting manual maintenance by 70% and positioning the framework for future deployment

Software Engineer, Avitam Consulting Inc   Jan 2024 - Dec 2024

- Designed and implemented backend integration pipelines using JDE, ERP, and Python that automated payroll and HR data synchronization for 20+ startup clients across healthcare, agriculture, and tech, ensuring 99%+ data accuracy
- Developed and deployed RESTful APIs in Flask to interface with JDE tables and PostgreSQL databases, cutting batch processing times from minutes to under 200ms per request and enabling clients to handle thousands of employee records in real time
- Engineered automated workflows in JDE (payroll, HR, and finance modules) to import new employee records, validate schema consistency, and export payroll metrics, reducing manual data entry by 80% and saving analysts an average of 10 hours per week
- Partnered with cross-functional product and engineering teams to prototype and ship MVP features such as real-time reporting dashboards and automated compliance alerts, improving operational visibility and adoption among 3 early-stage startups

Code Instructor, Code Ninjas   June 2022 - Present

- Instructed 50+ students (ages 5–17) in Data Structures, Algorithms, and languages including Python, C++, and JavaScript and mentored advanced students to solve LeetCode Hard problems; 3 progressed to competitive programming contests

Research Assistant, UC Merced   Feb 2023 – May 2023

- Prototyped a cost-effective eye-tracking software solution designed to monitor and analyze user reading behavior
- Automated a MATLAB-based PDF tracking tool capable of precisely capturing and evaluating user reading patterns
- Implemented data analysis workflows to extract/visualize cursor positions, dwell times, and text highlighting patterns

Projects

NEXUS - Full-Stack E-commerce Platform   `https://shopping-website-zeta-rose.vercel.app/`

- Architected a cyberpunk-themed full-stack marketplace with Next.js, React, Supabase, and Stripe, supporting authentication, product catalog, and real-time checkout workflows used by 50+ test users during pilot launch
- Automated dropshipping workflows with Node.js microservices and Puppeteer web scraping using Aliexpress, cutting product sourcing/sync time from hours to minutes while maintaining 95%+ inventory accuracy

Atomic Archipelago - OS Concurrency and Scheduling Puzzle 🎧

- Engineered custom synchronization primitives (locks, semaphores, condition variables) in Java using the Nachos package, enabling correct concurrency without busy waiting and supporting thousands of concurrent thread operations in stress tests
- Extended kernel modules to handle timed sleeps, inter-thread messaging, and deadlock-free scheduling