

Nihar Marar

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Education

University of California, Irvine - Master of Computer Science August 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, Game Programming, Operating Systems, Discrete Math, Software Engineering, Full Stack Web Development, Computer Graphics, Calculus 1-3, Linear Algebra, Linear Analysis, Statistics, Cognitive Engineering

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

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

Skills

Programming Languages/Libraries: Python, Java, Javascript, R, SQL, C, C++ , C#, Gradio, NumPy, OpenGL, Pandas, React

Software: AWS (Sagemaker, S3), MATLAB, Microsoft Excel, MIPS Assembly, Godot (GDScript)

Experience

Machine Learning Engineer Intern, X10e – Mountain View, CA Jan 2025 - May 2025

- Developed a streamlined, end-to-end platform for analyzing genetic (RNA) data tied to Traumatic Brain Injury (TBI)
- Leveraged AWS (SageMaker, S3 buckets) for the model deployment, Gradio for UI dashboards, and Machine Learning techniques (LightGBM, XGBoost, CatBoost, decision trees) to extract top gene-expression features (Extracted 31K genes)
- Created an intuitive web interface (CSV upload, confusion matrix, classification distribution) that enables practitioners to explore critical genomic factors and tailor patient treatment strategies, all informed by X10e's sensor-driven results

Software Developer, Avitam Consulting Inc – San Diego, CA Jan 2024 - Dec 2024

- Supported development and integration of internal tools for startup clients in the early prototype and revenue stages
- Contributed to backend development tasks for client-facing platforms using JDE, SQL, Python, and ERP-related technologies
- Participated in the Startup Builder and Accelerator programs by providing technical assistance to founders and product teams
- Collaborated with senior engineers and consultants on system design, testing, and deployment for HR and payroll solutions

Code Instructor, Code Ninjas Rancho Bernardo – San Diego, CA June 2022 - Present

- Teach Data Structures and Algorithms in Python, C++ , C#, and JavaScript and helped students develop projects
- Projects would be as simple as scratch games to websites to programming Minecraft/Roblox servers to Unity games
- Teach LeetCode hard questions to my most diligent students, a few of them being as young as 11 being able to solve them

Research Assistant, UC Merced – Merced, CA Feb 2023 – May 2023

- Developed a cost-effective eye-tracking software solution designed to monitor and analyze user reading behavior
- Engineered 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

Atomic Archipelago - OS Concurrency and Scheduling Puzzle <https://github.com/NiharMarar/Atomic-Archipelago>

- Developed Java based synchronization primitives (locks, condition variables, semaphores, communicators) to manage concurrency at the OS kernel level without busy waiting using the Nachos package
- Created and tested modules (Alarm, Condition2, Communicator) to handle thread scheduling, timed sleeps, and inter-thread messaging for advanced synchronization scenarios
- Engineered a multi-threaded “Boat” simulation where children and adults safely crossed islands under strict capacity constraints, ensuring correct synchronization and deadlock-free operation

HealthSync - Database Application <https://github.com/NiharMarar/HealthSync-Database-Application>

- Developed a hospital database management system with 7 entity sets and 3 many to many relationships using Python and SQL
- Implemented a UI to facilitate tasks such as patient record management, appointment scheduling, stocks, and billing
- Created and optimized complex SQL queries including nested subqueries to enhance data accuracy and retrieval efficiency