Neelansh Khare

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EDUCATION

University of California - Irvine

Irvine, CA

Bachelor of Science in Computer Science

Relevant Coursework: Machine Learning & AI, Data Structures and Algorithms, System Design, Data

Management, Software Testing and QA, Compilers & Operating Systems

languages: Python, Java, JavaScript, C++, C, R, Frameworks/Technolgies: React, AWS, TensorFlow

Developer Tools: SQL, Git, Docker

Leadership: Software Developer for ICSSC, President for the Indian Subcontinental Club, Google Developer Student

Club, Volunteer for ENGin, Software Developer for Legacy Robotics, Data/Analytics Chair for Sigma Pi

EXPERIENCE

Software Engineer

June 2022 - Present

University of California, Irvine

Irvine, CA

- Developed and deployed a Java automation system for effort reporting, reducing processing time by 90% and eliminating manual data entry errors.
- Architected a documentation generator using Java and RESTful APIs, helping with quicker onboarding.
- Implemented and tested complex **backend** features for a financial aid portal using **Java and JUnit**, resulting in new features including faster data loading time by 30%.
- Resolved frontend visual bugs and improved UI/UX interactions using React, fixing UI inconsistencies.
- Designed and implemented a database anonymization application using Java and SQL, to ensure FERPA
 compliance.
- Engineered **JavaScript** data processing scripts that created **SQL** queries automatically from an Excel sheet, saving hours for developers weekly.

Undergraduate Researcher

January 2024 – Present

He Lab, University of California, Irvine

Irvine, CA

- Developed a deep-learning model using computer vision to predict nano-particle motion, enabling advancements in material science research (Pending paper publication).
- Engineered and optimized a Python based CNN for electron microscopy analysis, achieving 95% accuracy in particle identification as well as developed my own scripts for data inference and preprocessing.
- Created a synthetic data generation pipeline that can produce 10000+ realistic microscopy images, enabling robust model training and validation.

Projects

AI Based Stock Trading | Python, REST APIs

- Engineered an automated trading system utilizing Bard AI for market analysis and Schwab APIs for execution.
- Implemented risk management algorithms with stop-loss mechanisms.
- Developed real-time market monitoring system processing data from an exchange with sub-second latency.

Object Recognition Script | Python, Matplotlib, OpenCV

- \bullet Developed a real-time object detection system with 97% accuracy for household items using custom-trained CNN models.
- Built a user-friendly GUI for real-time visualization and result logging using Matplotlib.

Python Based Discord Bots | Python, REST APIs

- Handled 100+ daily interactions across multiple Discord servers.
- Implemented competitive gaming features with PostgreSQL leaderboard system, driving 70% increase in user engagement.
- Created automated moderation tools using natural language processing to maintain community guidelines.
- Designed asynchronous event handling system for optimal performance during high-traffic periods.

Compiler and Interpreter | Python

- Built a fully-functional compiler/interpreter from scratch in Python that processed the low level language Tiny.
- Implemented a lexer, parser, and the ability to add user defined functions and variables.