

ALAN ROCQUE

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TECHNICAL SKILLS

Languages | Python, JavaScript, TypeScript, HTML, CSS, Java, C, Assembly, SQL

Frameworks | NestJS, Jest, Pandas, Sci-Kit Learn, Tensorflow, ReactJS

Developer Tools | Claude Code, Codex, Cursor, Git, Linux, VSCode

EXPERIENCE & PROJECTS

Software Engineering Intern | Amazon

May 2025 - Aug 2025

Dynamic Messaging FrameWork

AWS AppConfig | Java | Distributed Systems

- Architected and implemented a distributed configuration management system using AWS AppConfig, enabling dynamic updates to application behavior without code deployments, resulting in **70% faster** feature rollouts and configuration changes
- Designed a robust caching layer with intelligent error handling for configuration retrieval, improving system resilience while reducing AWS AppConfig calls by **95%**
- Developed a multi-region configuration system supporting message customization and A/B testing capabilities across NA, EU, and FE fulfillment regions, enabling targeted customer experiences based on marketplace, carrier, and fulfillment type

Software Engineering Intern | Intel

May 2024 - Aug 2024

Anomaly Detection and Recommender System

Python | Sci-Kit Learn | HuggingFace Transformers

- Architected an Anomaly Detection and Recommender System using Sci-Kit Learn and HuggingFace Transformers, which streamlined design workflows and increased productivity
- Applied natural language processing techniques to analyze log files and convert them into quantitative data, facilitating more accurate anomaly detection
- Performed Anomaly Detection on quantitative data to detect errors in log files, improving system efficiency

Software Engineering Intern | Intel

May 2023 - Aug 2023

Workflow Execution API

TypeScript | NestJS | SQL | Jest

- Developed a RESTful API to query a SQL Database, improving data access speed and reliability
- Migrated a custom NodeJS application to NestJS which increased hardware developer productivity
- Ensured the functionality of the NestJS platform by conducting tests with Jest
- Programmed the application using TypeScript and SQL, resulting in a robust and efficient codebase

Undergraduate Researcher | Informatics Skunkworks

Jan 2024 - Present

NBA Game Outcome Prediction Research

Python | Google Colab | SVMs | Neural Networks

- Leveraged Google Colab to efficiently train Support Vector Machines (SVMs) and Neural Networks, optimizing model performance through cloud-based computational resources
- Employed a Multi-Layer Perceptron Classifier to predict the outcome of NBA games
- Processed and cleaned a comprehensive dataset using Python containing game statistics for all NBA teams

Balloc and Bfree | Academic Project

Sept 2023

Dynamic Memory Allocator in C

C

- Developed C code for dynamic memory allocator function
- Applied a best-fit placement policy in Balloc to allocate blocks of data on the heap
- Implemented Bfree with coalescing and an explicit free list to manage the free blocks

Grocery Inventory Manager | Academic Project

March 2023

Red-Black Tree Inventory System

Java

- Designed a Grocery Inventory manager in Java that used a Red-Black Tree to store grocery items
- Implemented a file reader system that allowed a CSV file to be passed in with information on varying grocery items
- Enabled users to remove and add items from the Red-Black Tree
- Used recursion in operations that required traversal of the Red-Black Tree

EDUCATION

University of Wisconsin-Madison | BS Computer Science and Data Science

Expected May 2026

- **Completed Coursework:** Database Management Systems: Design and Implementation, Data Structures and Algorithms, Introduction to Deep Learning and Generative Models, Introduction to Machine Learning and Statistical Pattern Classification, Introduction to Big Data Systems, Introduction to Artificial Intelligence
- **Planned Coursework by May 2026:** Foundational Models