Zain Mobhani

Summary

Software Engineer with 3 years of experience designing and maintaining critical real-time systems in C/C++. Proven ability to identify and optimize legacy solutions to enhance functionality while ensuring security and reliability. Collaborates effectively with cross-functional teams to deliver robust, high-performance solutions.

Experience

Software Engineer   April 2023 - Present
Georgia Tech Research Institute — Software Engineering & Analytics Division (SEAL-SEAD)   *Atlanta, GA*
- Delivered a production quality signal-processing algorithm in C++ using proof-of-concept, achieving 300x reduction in computation latency & enabling real-time operation
- Led development & integration of a robust toolkit to evaluate algorithm efficacy on CI/CD pipelines in real-time and maintain data integrity
- Designed & engineered an optimized, modular API to integrate data captured using spectrum analyzer while minimizing resource usage and maximizing throughput
- Developed a comprehensive diagnostics interface for threat classification software to detect & classify performance bottlenecks and system instability during runtime
- Coordinated with frontend and backend teams to identify, isolate, and refactor obsolete code to streamline data processing pipelines, standardize endpoint APIs, and improve maintainability
- Automated & parallelized software generation and testing to facilitate algorithm analysis and reduce developer down-time

Software Engineer Intern   May 2017 – Nov 2017
Tyroo, Inc.   *New Delhi, India*
- Cleaned and parsed millions of records to feed into Tyroo's custom Machine Learning algorithm
- Provided personalized ads and marketing to users for all users (web, mobile, etc.)
- Created web-scraper for vid.ai to convert articles & webpages into ads optimized for mobile users
- Used Natural Language Processing (NLTK) to condense articles into a set of key highlights to auto-generate mobile ads

Design Intern   June 2015 – Aug 2015
frog Design, Inc.   *New York, NY*
- Helped reimagine and modernize 10,000+ payphones in NYC – LQD Palo
- Proposed, selected, and validated locations of LQD Palo deployments for maximum impact

Education

University of California at Santa Cruz   2022
Bachelor of Science in Computer Science, Minor in Statistics   *Santa Cruz, CA*
- **Relevant Coursework:** Object Oriented Programming, Functional Programming, Data Structures & Algorithms, Applied Machine Learning, Operating Systems, Computer Graphics, Computer Architecture, Foundations of Programming, Computational Methods & Applications, Analysis of Algorithms, Compilers

Bachelor of Arts in Mathematics & Economics
- **Relevant Coursework:** Differential Equations, Number Theory, Real Analysis, International Finance, Classical & Bayesian Inference, Probability Theory Industrial Organization, Econometrics, Advanced Quantitative Methods, Security Markets & Financial Institutions, Linear Algebra

De Anza College   2020
Associates of Science in Computer Science   *Cupertino, CA*

Technical Skills

Software: C/C++17, Python, MATLAB, JavaScript, HTML/CSS, x86 & RISC-V assembly, Haskell
Tools & Technologies: Unix/Linux, git, GDB, CMake, GCC, Catch2, UnitTest++, Docker, bash/zsh
Concepts: Object-oriented programming, Compilers, Operating Systems, Virtual Memory, Cache Memory, API, Agile Methodology