Alexander G. Arias

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Objective

Motivated and detail-oriented Computer Science graduate with experience in system architecture, software development, and graphics programming. Passionate about developing innovative, efficient solutions and leveraging cutting-edge technologies to tackle complex problems. Seeking to contribute strong technical skills, leadership experience, and a commitment to quality to a dynamic development team in the tech industry.

Skills

Languages: *Java, C#, C++, C, Python, HTML, CSS, JavaScript, System Verilog, Assembly.*
Technology and Tools: *Git, GitHub, Linux, Gnu DeBugger, Valgrind, JUnit.*
Frameworks: *.NET, Node.js*

Education

University of California, San Diego **Sep. 2020 - Dec. 2023**
Bachelor of Science in Computer Science
GPA: 3.73

- Relevant Courses: Data Structures, Algorithms, Operating Systems, Web Client Languages, Computer Security, Computer Graphics, Software Engineering.

Experience

Computer Science Tutor **Sep. 2022 - Dec. 2022**

- Enhanced student performance in C and Assembly programming, contributing to a 90% pass rate in Computer Organization and Systems Programming courses.
- Designed and implemented tailored tutoring strategies, improving student confidence and proficiency in system programming concepts.

Projects

The Super Simple Instruction Set Architecture © and Core Processing Unit
Technologies: System Verilog, Python, C

- **Team Lead:** Directed a team of 3 to develop a custom processing unit, successfully completing the project 40% ahead of schedule.
- Designed and implemented an efficient 9-bit instruction set architecture and a custom core processing unit to perform Forward Error Correction (FEC) tasks, achieving a 100% functional, zero-bug deployment that met all project requirements.

Nachos Operating System
Technologies: Java, C, Linux Commands

- Collaborated in a team of 4 to design and implement a functional operating system, completing sub-projects on Synchronization, CPU Scheduling, and Memory Management to improve OS performance in academic settings.

Multi-Platform Post Scheduler

Technologies: HTML, CSS, Javascript

- Co-led a team of 8 to develop a CRUD web application for scheduling social media posts, streamlining content creation for platforms like Twitter, Facebook, and Instagram.
- Designed and deployed small CRUD web projects to reinforce expertise in HTML, CSS, JavaScript, and web-related APIs.

Graphics Shadow Mapping and Other Graphics Projects

Technologies: C++, C, OpenGL

- Collaborated in a team of 2 to design and integrate a shadow mapping application into a functional 3D environment using OpenGL and C++.
- Implemented advanced graphic concepts, including fragment shaders, Mandelbrot fractals, 3D rotation formulas, and scene building.