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EDUCATION

University of California, San Diego

Bachelor of Science, Mathematics - Computer Science

La Jolla, CA

Sept 2016 - June 2019

Major GPA: 3.52

EXPERIENCE

Raytheon Technologies - Integrated Defense Systems

Software Engineer

San Diego, CA

June 2019 - Present

- Spent first 8 months working on a RedHat-based comprehensive navigation solution (GPNTS)
 - Implemented code to communicate with embedded systems, involving socket programming, packing and unpacking binary data in C++
 - Wrote RESTful services in .NET Core for our navigation simulators, and a full-stack application serving React.js webpages using Node.js and MongoDB as a backend solution for communication and storage
 - Developed a medium-sized real-time analysis tool in Python to evaluate our navigation solution's performance, requiring communication with multiple databases including MySQL and MongoDB
 - Selected for participation on a short-term proprietary project investigating alternative navigation systems. The final product resulted in obtaining additional funding for further development
- Citing high performance on previous efforts, moved teams to develop microservices for a Cloud-Native container-based combat management system with Java Spring Boot and Kubernetes
- Utilizing DevOps tools including Jenkins, Git, Ansible, and more in a modern Agile environment

Kastner Research Group - UC San Diego CSE

Undergraduate Researcher

La Jolla, CA

Sept 2017 - June 2018

- Implemented cross-correlation algorithms pairing sound signals from different recording devices
- Visualized data predicting relative positions of underwater actors from autonomous underwater vehicles
- Used Python's scientific computing tools such as NumPy, SciPy, Matplotlib, and pandas

PROJECTS

Functional Programming with Haskell

- Created a programming language, and a REPL-based interpreter capable of evaluating and storing expressions
- Implemented parsing and lexing, lambda expressions, and closures in a Stack-based project

Computer Graphics with C++

- Engineered a ray tracer in modern C++ using sophisticated algorithms for calculating intersections, reflections, lighting, and shading for a variety of shapes and scenes

Backend Development with Python

- Created a real-time messaging system utilizing long-polling, Ajax, within the webapp2 framework
- Integrated a registration and authentication system using salting, encryption, and hashing

Additional Skills

- Knowledge of the Linux terminal including bash, package management, and the Unix System Interface
- Experience with modern C++ (C++14, C++17) including compilation, linkage, and the standard library
- Some experience with client-side development including developing a random quote generator, a weather tracker, and a typing test using Vanilla JS, HTML Scraping, and third-party APIs
- Experience with object-oriented design patterns, including some experience with cloud design patterns
- Coursework: Wrote quantum and classical random algorithms and machine-learning algorithms for identifying handwritten-digits, and image blurring algorithms in MATLAB