John-Paul Hurley

Phone: (707) 583-4550
E-Mail: jphurley@alumni.scu.edu

Software Engineer

- Entry level programmer with 5 years of experience in C/C++
- Fast paced learner and creative problem solver
- Eager to work on a wide variety of projects

Education

Santa Clara University - Santa Clara, CA

- BS in Computer Science and Engineering, Cum Laude 2018
- Minor in Mathematics 2017

Programming Languages

Advanced

- C/C++

Proficient

- Java, Scala, Python and Bash

Basic

- SQL and Spark

Experience

Kuehler Research Grant

C++ Simulation Framework Research, Summer 2017

- To aid future IoT research, compared network simulation frameworks (NS3 and OMNeT++'s INET library) for optimizations in their implementations of the IEEE 802.11 physical layer

Programming Projects

Compiler Construction

- Constructed a complete, fully functional, Compiler for a subset of the C language in C++, using x86

Data Structures/Algorithms

- Designed C++ classes for Graphs, Digraphs, and Weighted Digraphs
- Implemented a templatized D-ary Heap class in C++
- Implemented a Disjoint Set class in C++
- Utilized these classes in graph algorithms such as MST, Shortest Path, DFS/BFS, Topological Sort, and Eulerian Cycle/Path
- Well versed in Object Oriented concepts including Inheritance, Polymorphism, Abstraction and Encapsulation

Operating Systems

- Modified the MINIX kernel scheduling algorithm
- Comfortable with OS concepts such as Virtual Memory, Multi-Threading, and I/O

Machine Learning

- Programmed LDA and QDA in Python using the SciPy Library
- Implemented Linear and Ridge regression using both the closed form solution and gradient descent in Python

Computer Architecture

- Created and tested a linearly pipelined CPU datapath in Verilog
- Programming experience with ARM and x86 ISAs