Benjamin Porter

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EDUCATION

The University of Texas at Austin   **Aug. 2017 - May 2021**
B.S. in Computer Science (Turing Scholars Honors Program)   GPA: 3.65
Coursework: Operating Systems (H), Computer Architecture (H), Data Structures (H), Wireless Networks, Discrete Mathematics (H), Competitive Programming, Statistics/Probability, Linear Algebra

EXPERIENCE

Software Consultant - ASAA Consulting, Inc.   **Sept. 2018 - present**
· Creating C# functions to verify existence and integrity of data in Amazon S3 buckets for use in a serverless AWS Lambda function

Research Intern - Parasol Laboratory, Texas A&M University   **Jun. 2016 - Aug. 2016**
· Implemented metrics in C++ using Parasol Motion Planning Library (PMPL) to evaluate ligand binding site candidates on protein surfaces, parsing protein database files and writing metrics to text files
· Proposed future application of metrics as features in a neural network approach
· Adhered to code quality standards and performed code reviews/check-ins
· Compiled a technical report and poster and presented findings at undergraduate research symposium

PERSONAL PROJECTS

Judge for Programming Contests   **Jun. 2018 - present**
· Developing a framework to manage, accept submissions for, and judge programming contests
· Using Docker Compose and Alpine Linux to create small, on-demand server-hosted user code repositories with automated grading provided by Git hooks and a dedicated Docker container
· Implementing a web portal using Flask backed by a SQL database for tracking submissions and scoreboards

Pest Control **- Team Lead**   **Nov. 2016 - Apr. 2017**
· Developed a video game in a team of four using the Unity engine in which the player takes on the role of an insect and completes various challenges
· Wrote mechanics for players to walk on surfaces and implemented user interface elements
· Facilitated effective communication/documentation and organized team meetings

CLASS PROJECTS

Web Crawler and Search Engine   **Nov. 2017 - Dec. 2017**
· Implemented a web crawler and search query engine in Java
· Designed a web index using inverted indexing capable of storing 9000+ pages and a query language with precedence order and logical operations
· Developed a comprehensive testing framework, using graph algorithms to model pages and links and using JUnit to automate testing

Computer Architecture Projects   **Jan. 2018 - May 2018**
· Implemented an interpreter for a simple programming language with global variables and lambda functions
· Rewrote interpreter to compile source files into x86_64 assembly
· Wrote a concurrency API in C with context switching and channels for communication between threads
· Designed single-cycle, multi-cycle, and pipelined processors using Verilog

Kernel Memory Management   **Sept. 2018**
· Implemented `malloc` and `free` in C++ using a best-fit heap in an environment lacking the C standard library

HONORS

Leo and Catherine E. Schein Memorial Scholarship   **Fall 2017, Spring 2018**
· Endowed scholarship from the Department of Computer Science for distinguished undergraduate members of the Turing Scholars program

SKILLS

Proficient: Java, C/C++, LaTeX, Unity
Familiar: Rust, Go, Python, x86_64 assembly, Verilog, SQL, Javascript, HTML, CSS
Tools/Concepts: Docker, Git, Node.js, Express.js, Flask

EXTRACURRICULAR ACTIVITIES

Competitive programming, Association of Computing Machinery, Electronic Game Developers Society