Benjamin Porter

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Education

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

Experience

Research Intern - Parasol Laboratory, Texas A&M University **Jun. - 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

Web Crawler and Search Engine **Nov. - 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

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

Computer Architecture Projects **Jan. - 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
- Designed single-cycle, multi-cycle, and pipelined processors using Verilog

Tetris **Oct. 2017**
- Implemented Tetris game mechanics in Java, such as rotations and resolution of collisions
- Built an AI to play Tetris by weighting the possible moves and selecting the optimal choice

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++, Git, LaTeX, Unity
Familiar: x86_64 assembly, Rust, Python (Flask), Ruby (Rails), SQL, Javascript (Node.js, Express.js), HTML, CSS
Operating Systems: Linux, Windows

Extracurricular Activities

Competitive programming, Association of Computing Machinery

High School Activities/Achievements

National Merit Finalist (15,000 selected nationwide)