Benjamin Porter

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Education

The University of Texas at Austin
B.S. in Computer Science
expected May 2021
Turing Scholars Honors Program
Cumulative GPA: 3.61

Coursework

Current

- Network Security/Privacy (H)
- Computer Networks

Past

- Artificial Intelligence (H)
- Operating Systems (H)
- Computer Architecture (H)
- Data Structures (H)
- Discrete Mathematics (H)
- Algorithms/Complexity
- Competitive Programming
- Probability
- Linear Algebra
- Multivariable Calculus

Skills

Proficient: Java, C, Python, Golang
Familiar: C++, C#, assembly, SQL, HTML, CSS, JS, LaTeX
Tools/Concepts: VCS, REST, SRE, containers/orchestration, CI/CD pipelines, testing principles

Extracurricular Activities

- Competitive programming
- Information and Systems Security Society

Smaller Projects

Treaps

- A randomized data structure combining trees and heaps

Tetris

- The game logic and a simple AI to play automatically

Random Writer

- Generates random text from sources using Markov chains

Experience

WP Engine **Jun. 2019 – Aug. 2019**
Software Engineering Intern Austin, TX

- Embedded on a business systems team managing the billing system
- Participated in Scrum ceremonies and code reviews with engineers and published code to staging and production environments
- Implemented a reconciliation pattern to synchronize invoice records between internal and third party services, resulting in a reduction in manual tasks during end-of-month accounting
- Used API calls to enable communication between the billing system, third party services, and a periodically-run reconciler agent

Parasol Laboratory, Texas A&M University **Jun. 2016 – Aug. 2016**
Research Intern College Station, TX

- Applied robot motion planning to evaluate binding site candidates on protein surfaces, implementing metrics in C++ to estimate likelihood of each site based on physical characteristics
- Compiled a technical report and presented findings at undergraduate research symposium

Projects

Browser Python Execution **Jul. 2019**

- Implemented a lightweight virtual machine for Python in C++ that compiles to WebAssembly, allowing Python code to run in a browser
- Created a proof of concept supporting several Python instructions and a keyword for calling JavaScript code from Python

Operating System Kernel **Sep. 2018 – Dec. 2018**

- Implemented a kernel with a heap, preemptive threading, virtual memory, a file system, synchronization primitives, and a user mode with Unix-like system calls
- Wrote hardware interrupt-based PS/2 keyboard and mouse drivers

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 to associate words to pages and a query language supporting precedence order and logical operations
- Developed a comprehensive testing framework using JUnit, generating random collections of pages and links with graph algorithms and comparing results from the search engine to a standard of truth

Honors

Leo and Catherine Schein Memorial Scholarship **Fall 2017, Spring 2018**

- Endowed scholarship through the Department of Computer Science for undergraduate Turing Scholars