

# Benjamin D. Porter

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## EDUCATION

### The University of Texas at Austin

2017 - 2021

Pursuing B.S. in Computer Science (Honors)

GPA: 3.38

Turing Scholars Honors Program

Current coursework: Computer Organization/Architecture (H), Competitive Programming, Statistics/Probability

Past coursework: Algorithms and Data Structures (H), Discrete Mathematics (H), Integral/Multivariable Calculus

## EXPERIENCE

### Research Intern - Parasol Laboratory, Texas A&M University

Jun. - Aug. 2016

- Applied sampling-based motion planning to predict ligand binding sites on a protein surface
- Implemented metrics in C++ using Parasol Motion Planning Library (PMPL) to gauge candidate binding sites' favorability, parsing protein database files and writing metrics to text files
- Proposed future application of metrics as features in a neural network approach
- Attended weekly group meetings and regular talks/thesis defenses
- 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 simple 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

### 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 walls and implemented user interface elements
- Facilitated effective communication/documentation and organized team meetings

### Fun Interpreter and Compiler

Jan. - Feb. 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

### Tetris

Oct. 2017

- Implemented Tetris game mechanics in Java, such as rotations and resolution of collisions
- Built a simple AI to play Tetris by weighting the possible moves and selecting the optimal choice

### Judge for Programming Contests

Jan. 2018 - present

- Developing a framework in Node.js and Express to judge submissions in programming contests

## HONORS

### Leo and Catherine E. Schein Memorial Scholarship

Fall 2017, Spring 2018

- Endowed scholarship from the Department of Computer Science for distinguished undergraduates in the Turing Scholars program

## SKILLS

**Proficient:** Java, C/C++, Git,  $\LaTeX$ , Unity

**Familiar:** x86\_64 assembly, Python, SQL, Javascript, web frontend

**Operating Systems:** Linux, Windows

## EXTRACURRICULAR ACTIVITIES

Competitive programming, Association of Computing Machinery, Information and Systems Security Society

## HIGH SCHOOL ACTIVITIES/ACHIEVEMENTS

National Merit Finalist (15,000 selected nationwide)

UIL Computer Science competitor