Xiangwei (David) Chen

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EDUCATION

- **University of Texas at Austin** — Austin, TX
  Pursuing BS in Computer Science (Turing Scholars Program); GPA: 3.72 — *Aug. 2017 – May 2021*
  Coursework: Data Structures (H), Discrete Math (H), Computer Architecture (H), Operating Systems (H), Quantum Information Science (H), Multivariable/Vector Calculus (H), Statistics/Probablity, Linear Algebra, Autonomous Robotics I/II, Competitive Programming

PROJECTS

- **Web Crawler and Search Engine** — Nov. 2017 - Dec. 2017
  - Implemented a web crawler and search engine in Java
  - Developed an web index using an inverted index, storing data from each unique URL
  - Enabled query processing utilizing Djikstra's shunting yard algorithm, allowing for logical operations and precedence

- **Tetris** — Oct 2017
  - Implemented the classic game of Tetris in Java
  - Version of Tetris included basic and complex mechanics such as rotations and wall kicks
  - Wrote a genetic algorithm that finds an optimal scoring pattern to play the game
  - Developed a testing framework using unit tests and integration tests

- **Computer Architecture Projects** — Jan. 2018 - May 2018
  - Built channels to enable concurrent execution and send data between functions, storing the state of the stack pointer to enable functions to pause execution
  - Constructed an interpreter for a simple language with global variables, conditional statements, loops, functions, lambda functions
  - Wrote the interpreter in C, Rust, and Go
  - Rewrote interpreter to compile the language into x86 assembly
  - Developed a single-cycle, multi-cycle, and pipelined processor in Verilog

- **Random Writer** — Oct. 2017
  - Utilized Markov Chains to read and generate a new text similar to a known piece of work

- **Treaps** — Nov. 2017
  - Implemented a treap in Java, having aspects of both a binary search tree and a heap
  - Developed unit tests to ensure correctness of implementation

SKILLS

- **Proficient**: Java, C/C++, Git
- **Familiar**: Go, Rust, Python, x86/64 Assembly, Verilog

EXTRACURRICULAR ACTIVITES

- **Competitive Programming**: Participation in the competitive progrmaming class and programming contests
- **Clubs**: Association of Computing Machinery, Machine Learning and Data Science, Turing Scholars Student Association