

Joshua Fan

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(425)-628-7677

Education

University of Washington, Seattle, WA (*junior*)

2013-2017 (expected)

- B.S. Computer Science (*expected June 2017*). **3.99 GPA** (cumulative)
- **Relevant coursework:** Systems Programming, Data Abstractions, Hardware/Software Interface, Foundations of Computing I/II (Discrete Math, Probability), Matrix Algebra, Software Design & Implementation (*currently taking*)

Experience

Software Design Engineer Intern at BitTitan

June-September 2015

- Implemented an in-memory data migration provider in C#, and used it to efficiently test a crucial object (that executes mailbox migrations) without relying on network connections and different data formats
- Improved the performance of a key method by 60%, by optimizing redundant SQL queries/database calls

Teaching Assistant at University of Washington Computer Science & Engineering

September 2015-present

- Assisted teaching a Probability/Foundations of Computing course
- Communicated challenging concepts effectively to students in classroom, office hours, and grading

Research Assistant at UW Computing for Development Lab

March-June 2015

- Helped redesign the "mPneumonia" app, which helps public health workers in India and Ghana easily collect data and survey patients according to pre-defined medical protocol
- Collaborated with PATH (global health company) to correct survey logic and optimize user experience

Projects

Word frequency analyzer/comparator (Java)

(Course project)

- Given text files, compares word frequencies to compute a value representing the similarity of two texts
- Employed a variety of self-implemented data structures and sorting algorithms

Search engine and web server (C, C++)

(Course project)

- Developed a file search engine, as well as a web server to process user queries using the search engine
- Used hash-tables and index files to speed up processing; utilized low-level pointer manipulation and system calls

Grep implementation (Java)

(Course project)

- Built a program that efficiently searches a text file for lines matching a given regular expression
- Implemented recursive functions and a context-free grammar to convert any regular expression into a corresponding non-deterministic finite automaton (finite state machine) object, facilitating efficient searches

Checkers game applet (Java) — <https://github.com/joshuaafan/Checkers-Applet>

(Extracurricular)

- Used object-oriented design to program a game of checkers (against a simple AI) as a Java applet
- Applied self-taught graphics programming (Swing) and event handling skills to implement a drag-and-drop GUI

Personal website and quiz app (HTML/CSS, Javascript) — <http://joshuaafan.github.io>

(Extracurricular)

- Built personal website showcasing interests, projects, résumé, using self-taught web development skills
- Created a web app allowing users to quiz themselves on different topics in Javascript/JQuery (*in progress*)

Languages and Technologies

- **Significant experience:** Java, C#, C
- **Some familiarity:** HTML/CSS, JavaScript, JQuery, SQL, C++
- **Tools/environments** (basic familiarity): Eclipse, Git, Visual Studio, Linux