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# Brandon Powers

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## Education

**Stonehill College** **Easton, MA** **Fall 2013 - May 2017**

- B.S. in Computer Science, May 2017, **GPA:** 3.0
- **Relevant Coursework:** Operating Systems, Computer Networking, Computer Architecture, Database Management Systems, Programming Languages, Algorithms, Software Engineering Capstone

## Technical Skills

**Languages:** C, C++, Python, Java, HTML, CSS, SQL
**Technology:** Unix (macOS, Linux), Vim, Git, Jekyll, GNU-Debugger (gdb), Valgrind, AWS (EC2, S3, RDS)

## Technical Projects

**Refuge** **Python, MySQL, Java, Swift, Flask**

***A mobile application for an NGO, Women Refugee Route (WRR), that provides aid to women refugees in Europe***

- Worked as a member of the backend team on a capstone project of 15 people using Scrum and agile practices like TDD and pair programming
- Created a REST API that acted as an interface between the iOS and Android applications to the MySQL database, hosted on an EC2 instance
- Designed a data model using ER modeling and wrote SQL to implement the model in a MySQL database
- Developed a data access layer with the backend team on both the iOS and Android platform for the app developers to access the REST API

**pshare** **Python**

***A python command-line interface (CLI) for social media sharing***

- Collaborated with a partner in creating a full-fledged CLI using argparse, implementing the ability to read, post, or delete from a user's Facebook or Twitter
- Worked with API wrappers tweepy and facepy to allow for simple, expressive single-line commands without having to directly interface with the API themselves

**pyrd** **Python, BeautifulSoup**

***A multi-threaded python-reddit (pyrd) web scraping search tool***

- Implemented ability to search multiple subreddits for posts given a list of keywords
- Scraped each subreddit (n pages deep) using BeautifulSoup, extracted the data from the HTML to create custom Post objects to display to the terminal

**simple-ftp** **C++**

***A simple file-transfer protocol implementation in C++***

- Designed a custom network protocol to implement file-transfer commands such as get, put, etc.
- Developed a client and server that connected via a socket connection using the TCP protocol, and communicated via the above custom protocol for the actual transfer of bytes

**pasCal** **C**

***An implementation of a subset of the Pascal programming language in C***

- Simulated computation through a non-deterministic finite automaton (NFA) using an array of its transition table to accomplish lexical analysis; produces a stream of tokens represented by C structs
- Built a recursive descent parser to perform syntax and semantic analysis from Pascal's context-free grammar (CFG) by using one function per non-terminal symbol; creates an abstract syntax tree through function calls