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BRANDON POWERS

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EDUCATION

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

- B.S. in Computer Science, May 2017, **GPA:** 3.0
- **Relevant Coursework:** Operating Systems, Computer Networking, Computer Architecture, Algorithms, Artificial Intelligence, Software Engineering Capstone, Theory of Computation, Programming Languages

TECHNICAL SKILLS

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

TECHNICAL PROJECTS

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

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 application program interface (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, with a dispatcher-worker model of one thread per subreddit
- Achieved pagination through scraping for a particular id and rank on a given page, then opened a Reddit-specific url for the next page in a subreddit
- 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 like 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

pymail　　　　　　　　　　　　　　　　　　　　　　　　Python, Flask, SQLite, dataset
A local email web application using Flask & SQLite.

- Allowed users to create or login to an account, send emails to other users, and read or delete emails, locally
- Stored emails and user information using SQLite with dataset, and accessed data using the Data Access Object (DAO) design pattern for each model (email and user)