BRIDGE DUDLEY

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EDUCATION

University of Michigan **Ann Arbor, MI**
B.S.E., Computer Science *December 2019*
GPA: 3.315
Coursework: Operating Systems, Web Systems, Embedded Systems, Mobile App Development, Computer Security, Data Structures & Algorithms, Computer Organization, Foundations of Computer Science, Logic Design

TECHNICAL SKILLS

Programming Languages	C/C++, Python, Swift, JavaScript, SQL, Bash
Other Skills	OpenCV, Flask, React, HTML, CSS, Bootstrap, MySQL, AWS S3/EC2, MapReduce, Borg, Spanner, Protocol Buffers, CMake, XCTest, Catch2

EXPERIENCE

Google, Inc. May 2019 - August 2019
Software Engineering Intern *Sunnyvale, CA*

- Implemented a notification subsystem to improve data freshness of target web documents
- Developed an indexing pipeline that processes, analyzes, & stores terabytes of Url data
- Designed & deployed a distributed database schema for high volume transactions
- Built a metrics pipeline to show that data freshness of target documents improved by over 80%

Diamond Kinetics May 2018 - August 2018
Software Engineering Intern *Pittsburgh, PA*

- Developed exit path and bounce detection algorithms for computer vision app that tracks ball flight
- Interfaced baseball tracking algorithm with Stereolabs' ZED Camera API for 3D positional tracking
- Managed CV project's AWS CodePipeline and wrote shell scripts to run integration tests in Docker containers
- Built XCode UI test library from scratch that easily adapts to cover new UI features as they're developed

PROJECTS

MapReduce Server
Single machine, multi-process, multi-threaded server that executes user-submitted MapReduce jobs across several workers. Implemented in Python, this server maintains TCP connections and UDP heartbeats between a master and multiple workers to map and reduce large data sets in parallel.

Network File Server
Multithreaded, cryptographically secure networked file system that maintains a hierarchical file structure for multiple users. The server provides clients with create, read, write, and delete RPCs, and reads/writes inodes and data blocks to disk using a preexisting thread safe interface. Implemented in C++ using the STL Thread Support Library and Berkeley sockets.

Wikipedia Search Engine
Webapp to search for Wikipedia articles. Used a shell-scripted Hadoop MapReduce pipeline to generate a reverse index that produces tf-idf scores for URLs based on existing web-crawl data. The index server (Flask/Python) provides a REST API with a SQLite backend to produce hits based on PageRank and tf-idf. Deployed with Gunicorn on Nginx Server upon AWS EC2 Linux.

SportsBar
macOS menu bar widget that displays live scores of the user's favorite sports teams. A Python script gets MLB, NHL, NFL, and NBA scores from the Sportradar API, and shows real time updates in the menu bar using an open source library called BitBar.

INTERESTS

poker (No Limit Hold'em), baseball, classic rock, playing guitar, standup comedy, pickup basketball