Avi Glozman

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American and Israeli Dual Citizen
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Education

University of Pittsburgh, Pittsburgh, PA
B.Sc. in Computer Science *August 2018 — December 2020 (Expected)*
Dean's List: *Spring 2020*
Notable coursework: Web Applications, Data Structures, Algorithm Implementation, Intro OS, Intro Systems Software (C), Computer Organization and Assembly (MIPS), Discrete Mathematics, Formal Methods

Skills

Programming languages: C, C#, C++, Java, Node.js, Python
Concepts: REST, Sockets, Distributed Systems, Machine Learning, Operating Systems
Software: Git, Linux, Windows, SQL, NoSQL, Azure, LaTeX
Spoken languages: English (Native), Russian (Native), Spanish (Partial fluency), Hebrew (Basic), Mandarin (Very basic)

Professional Experience

University of Pittsburgh, SCI, Pittsburgh, PA

Machine Learning Researcher *(Capstone Project)* *May 2020 — September 2020*

- Trained a YOLOv3 object detection model using Darknet for detecting parts of the human spinal anatomy with up to 98% accuracy
- Developed a pipeline for converting CT scan data (DICOM format) into a 3D model, then into augmented images for use as a synthetic dataset for model training and testing

Undergraduate Researcher, Learning Technologies Lab *November 2019 — Present*

- Using Python and BeautifulSoup to efficiently scrape hundreds of faculty profiles to gain various insights, such as specific research interests, publication data, lab affiliations, etc.
- Compiling scraped data into easy-to-process datasets for use in a university-wide undergraduate research opportunity discovery platform

Uber, Pittsburgh, PA

Software Engineering Intern, Advanced Technologies Group (ATG), Simulation *May 2019 — August 2019*

- Created an ETL system using Python for moving self-driving car related data from DynamoDB to PostgreSQL, and solved complex data-syncing challenges
- Developed pruning algorithms in Python for preventing transfer of broken, invalid, and/or redundant data relating to self-driving car testing
- Contributed significantly to a web API written in Go for self-driving car data analysis in production

aspace, Seattle, WA

Lead Software Engineer, Backend *May 2017 — October 2017 (11th-12th grade)*

- Designed MySQL and MongoDB databases for storing parking spot sensor data and user data, respectively
- Designed a RESTful API written in Node.js to support UX on Android and iOS apps, and for recieving sensor data
- Wrote an implementation of Dijkstra's algorithm using Node.js for navigation, relying on user location data and data from Mapbox's API
- Used Twilio's SMS API to integrate two-factor authentication into the backend.

Please note that the present lack of software engineering internships is solely a consequence of my quick completion of my degree.

Noteworthy Technical Projects

Virtual Memory Simulator *(schoolwork)* *2020*

- Wrote a small virtual memory simulator in Java, specifically for demonstrating the Second Chance local page replacement algorithm
- Supports both 32 and 64-bit virtual memory addresses, and outputs cumulative results such as # of page faults, memory accesses, and writes to disk per process

Semaphores and Synchronization *(schoolwork)* *2020*

- Modified the Linux 2.6.23 kernel to add a custom semaphore implementation, with testing done using QEMU
- Added new syscalls for synchronization/process scheduling using FIFO

Crossword Solver *(schoolwork)* *2020*

- Created a fully functional NxN crossword puzzle solver, using a recursive backtracking algorithm and heuristics for verifying solutions

Asteroids *(schoolwork)* *2020*

- Created a fully functional Asteroids clone in MIPS assembly, using a provided graphics engine and the MARS IDE
- Implemented physics/movement, random asteroid generation, and collision logic from scratch.

Lightweight Messenger *(schoolwork)* *2020*

- Used Node.js and Socket.io to design a backend for a lightweight messaging system prototype
- Implemented a RESTful API with Express.js for interacting with a PostgreSQL database for user accounts, contacts, message history, etc.

Synesthesia *(personal, open source via GitHub)* *2020 — Present*

- Program that creates unique patterns/visualizations for any sort of audio, by algorithmically interpreting and "displaying" the sound in a visually satisfying manner (using C++)

rentnexus.net *(personal)* *2019 — Present*

- Site that provides a focused platform for *students* to post about housing opportunities and requests, e.g sublet notices, roommate requests, etc. around campus

Extracurriculars

Pitt Computer Science Club (CSC) Member and Mentor *September 2018 — Present*
Wikipedia Contributor (under username *Avigl*) — over 700k all-time pageviews *June 2016 — Present*