Alexander Shah

Software Engineer

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Languages	Java, C/C++, Python, Scala, JavaScript, HTML, CSS, SQL, MATLAB
Tools / Tech	Git, Bash, PostgreSQL, ReactJS, jQuery, Flask

Experience

PaveAI | **Software Engineer** | Python, Javascript, SQL | *Toronto* | *May 2017 - Sep 2017*
- Designed an async service with Celery and Redis to distribute tasks across servers
- Replaced key-value store with PostgreSQL JSONB resulting in a **10x speed increase**
- Worked with PostgreSQL, using Alembic for migrations and SQLAlchemy for ORM
- Implemented Linear Optimization to extract the most critical data for clients

Richmond Hill HS | **Webmaster** | JavaScript, SQL | *Richmond Hill* | *Sep 2015 - Jun 2016*
- Linked ticket sales to MySQL database to keep track of attendance at events
- Developed software to organize school-wide games

Projects

Raytracer 🔗 | C++
- Wrote a **photorealistic graphical renderer** that works by simulating light rays
- Implemented reflections, refractions, and translucency for spheres and planes

Slime Farming Simulator 🔗 | Java
- Developed a **multithreaded game server** and client with Java Sockets
- Incorporated collision detection and double-buffering to reduce screen tearing
- Designed a procedural map generation algorithm and a pathfinding AI

Learnr 🔗 | JavaScript, Python
- Created an education enhancement app for students written in ReactJs and Electron
- **Transcribed YouTube videos** with OpenCV and Tesseract on top of Flask backend
- Summarized content using Intellexer and gave external links with Selenium WebDriver

Education

University of Waterloo | *2016 - 2021*
- Candidate for Bachelor of Software Engineering
- Dean's Honour List (91.6% CAV)

Coursera - Stanford University Machine Learning | MATLAB | *2016*
- Implemented Linear & Logistic Regression, ANN, k-NN, and SVM in weekly assignments
- Worked on real world applications such as anomaly detection and recommenders

Awards
- Top 1% HackerRank algorithms contest leaderboard | *Jun 2017 - Present*
- Top 30 Canadian Computing Olympiad Qualifying Round | *Feb 2016*
- Platinum Division USA Computing Olympiad | *Jan 2016 - Present*
- DECA International Team Marketing Finalist | *2014 - 2016*