Alexander Shah

Software Developer

zandershah | alexander.shah@uwaterloo.ca | zandershah.me

Languages Java, C/C++, Python, Scala, JavaScript, HTML, CSS, SQL, MATLAB

Tools / Tech Git, Bash, ElasticSearch, PostgreSQL, ReactJS, jQuery, Flask

Experience

PaveAI Software Developer | Python, Javascript, SQL | *May 2017 - Sep 2017*
- Designed an async network with Celery and RabbitMQ to distribute tasks across servers
- Replaced key-value store with PostgreSQL JSONB type resulting in a 10x speed increase
- Used Linear Optimization to determine the best insights to show to clients
- Created client-facing dashboard view with Flask backend
- Worked on SQLite database, using Alembic for migrations and SQLAlchemy for ORM

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

Projects

Slime Farming Simulator | Java
- Designed a multithreaded game server and client with Java Sockets
- Incorporated AABB for collision detection and double-buffering to reduce screen tearing
- Implemented procedural map generation using a tree model as well as pathfinding AI

SsSnake | JavaScript
- Built a voice controlled snake game using the p5.js client side animation framework
- Utilized p5.speech voice recognition to obtain directional inputs

SEware | C, TI Tiva, Orbit Boosterpack
- Modelled all object interactions using classical mechanics and linear algebra
- Communicated with I/O components such as OLED display, accelerometer, and LEDs

Sodasplosion | Java
- Developed a Bomberman clone with both single-player versus AI and multiplayer modes
- Designed AI to path towards the closest safe zone with a Manhattan distance heuristic

Education

University of Waterloo | *2016 - 2021*
- Candidate for Bachelor of Software Engineering
- Dean's Honour List (91.57% CAV)

Coursera - Stanford University Machine Learning | MATLAB | *2016*
- Implemented Linear & Logistic Regression, ANN, k-NN, and SVM for weekly assignments
- Discussed real world applications such as anomaly detection and recommender systems

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*