Aaron Zhang

https://www.linkedin.com/in/azhang413/

Email : azhang413@gmail.com
Mobile : +1-647-860-6827

EDUCATION

- **University of Waterloo** — Waterloo, Ontario
  Bachelor of Mathematics, Major in Computational Mathematics — *Sept. 2020 – Present*

PROGRAMMING SKILLS

- **Languages**: Python, C++, SQL, R, MATLAB, Bash Javascript, HTML, CSS, JSON, YAML
  Technologies: AWS (EKS, EC2, S3), Azure, AzureDevOps, Docker, Kubernetes, Git, GitHub, Playwright, Selenium, React

EXPERIENCE

- **Openlane** — Toronto, Ontario
  Site-Reliability and DevOps Engineer — *Fall 2022*
  - **Firefighter**:
    - Led development and maintenance of a web app for incident response and management, the app is utilized company-wide (5,000+ employees)
    - Coded in Python with Flask, Slack API, and AzureDevOps API
    - Set up the staging environments production, integration, and testing in AWS (EKS clusters), GitHub (long-lived branches with versioning), and Azure (Secrets and Tokens)
    - Created CI/CD pipelines in AzureDevOps for automated integration testing, unit testing, code linting, Docker container creation, deployment to AWS, Git versioning, release management, and more
    - Utilized continuous EKS cluster monitoring with endpoint liveliness and readiness probes
  - **Semantic Release**:
    - In charge of integrating AzureDevOps pipelines for semantic git releases in GitHub
    - Deployed across all GitHub repositories in the organization
  - **General DevOps Duties**:
    - Restarting Kubernetes pods through k9s or EKS
    - Updating environment variables
    - Updating outdated documentation on processes

- **Huawei Technologies** — Ottawa, Ontario
  Machine Learning Developer — *Winter 2023*
  - **Machine Learning for Quadrature Amplification Modulation Systems**:
    - Implemented and created training scripts for customized neural networks as replacements for MQAM Modem objects used in digital communications systems
    - Utilized the Deep Unfolding machine learning concept to construct a neural network to imitate a WMMSE Algorithm
    - Replicated AWGN Channel Simulation to do analysis on simulation times and computational complexity with profilers (in MATLAB and in Python)

- **Eon Media** — Toronto, Ontario
  Artificial Intelligence/Machine Learning Developer — *Spring 2021*
  - **Real-time brand recognition**:
    - Developed and headed the deployment of a brand metadata extraction solution for the USA National Cycling Championships event
    - Built Bash and Python scripts for automating entire detection and recognition processes
    - Trained and did hyper-parameter tuning on industry-standard detection and recognition models
    - Implemented scene-segmentation, body region recognition models, classification, and detection models in Torch, TensorFlow, and Keras, both with and without GPU usage

PROJECTS

- **Watopoly (Monopoly Clone)**:
  - Programmed in C++ following the MVC design pattern, using encapsulation on each component we achieved high coupling and low cohesion
  - Coded multiple high-level Classes and Objects with different design patterns such as Observers, Superclassing, etc.
  - Implemented complex banking system which included Mortgaging, Loaning, and Property Sales utilizing maps
  - Created a graphical display for the board which kept track of player locations and buildings