Laura Dang

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SKILLS

- **Languages:** Python, C++, Bash, SQL, HTML, CSS
- **Frameworks:** Flask, PyTorch, TensorFlow Keras, Django
- **Technologies:** Docker, Kubernetes, AWS (EC2, ES), MySQL, Linux, Git, Jenkins, Jira, Bitbucket, Confluence

WORK EXPERIENCE

Software Developer - DevOps & Machine Learning Teams – Molex Canada Ltd. Sept. 2020 – Dec. 2020

- Integrated **DeepSORT** object tracking algorithm into real-time industrial danger zone detector using **Python**
- Adapted **TensorFlow** 3D object detection system to load smaller model, improving frame rate by **~10x**
- Revamped data pipelines that stream API data to **Grafana** dashboards, increasing unit test coverage to **96%**
- Led creation of centralized **Jenkins** logging system by deploying **AWS Elasticsearch** instance with VPCs & IAM
- Migrated industrial automation microservices from **Docker** to **Helm/Kubernetes** & deployed to **AWS EKS**

Machine Learning Engineer – Soapbox Innovations Jan. 2020 – Apr. 2020

- Developed REST API using **Flask, MySQL, & Docker** to provide machine learning web services for 100 000+ users
- Trained **Keras recurrent neural network** using cloud **TPU** to recommend meetings based on Google calendar events, achieving **90.1%** validation accuracy
- Built **ETL** pipeline to dynamically retrain **fast.ai** models on data unique to each client & uploads model to **AWS S3**
- Improved text classifier validation accuracy by **12%** through hyperparameter tuning & data cleaning

Junior Software Developer – GrantMatch May 2019 – July 2020

- Implemented full-stack web app features **(Django, Laravel, Vue.js)** to secure government funding for clients
- Prototyped keyword extractor using **scikit-learn** to identify relevant target industries in grant applications
- Built **Python** web scraper using **Pandas** to extract, normalize, & insert 130 000+ **JSON** entries into **PostgreSQL**

PROJECTS

Automatic Black & White Image Colorizer Apr. 2020

- Researched & built **PyTorch** encoder-decoder **convolutional neural network** to colorize grayscale images
- Trained on 60 000+ images using cloud **GPU** & preprocessed images with **PyTorch** transforms & **NumPy** RGB arrays

Instrument Audio Classifier Feb. 2020

- Trained **Keras** neural network to classify WAV files with instruments, achieving **97.3%** validation accuracy
- Applied signal processing & Fourier Transform using **SciPy** to visualize frequency/time series & extract **MFCCs**

BehaviourStack – RyersonHacks Winner (Track Challenge) Sept. 2019

- Created business tool that identifies and collects the demographics of an advertisement's audience
- Utilized **ResNet** model & **OpenCV** to predict age & gender in real-time via webcam

EDUCATION

University of Waterloo Sept. 2018 – Apr. 2023

Candidate for **Bachelor of Mathematics, Double Major in Statistics & Computational Math**

- **Honours:** Dean's Honours List (Spring 2020)