

# Laura Dang

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## SKILLS

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**Languages:** Python • C++ • Bash • SQL • HTML • CSS

**Frameworks:** Flask • PyTorch • TensorFlow Keras • Kubeflow • MLflow

**Technologies:** Docker • Kubernetes • Helm • MySQL • MongoDB • Dash • Linux • Jenkins • Grafana • Jira • Git

**Cloud Services:** Azure (AKS, AAD, Blob Storage, ML) • AWS (EKS, EC2, ES, S3) • IBM Cloud (IKS)

## WORK EXPERIENCE

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**Machine Learning Infrastructure Engineer** – IBM Canada Ltd.

May 2021 – Aug. 2021

- Designed & built scalable end-to-end system to automate ML workflows & optimize ML investments for IBM enterprise clients
- Used **scikit-learn**, **Kubeflow**, & **MLflow** to develop ML pipeline with dockerized preprocessing and parallel model training stages
- Implemented CI/CD pipelines with **GoCD** & **Jinja** to automate model deployment on **ACI** & **AKS** using **Azure ML** & **Seldon Core**
- Deployed **Kubernetes** apps with load balancers, TLS certs, DNS labels, & authentication using **Helm**, **Bash** & **Azure AD**
- Created ML monitoring system to track feedback, outliers, & request rate/latency using **Prometheus** & **Grafana**
- Built **Dash** app using Twitter API, **MongoDB**, & **IBM Watson NLU** to store, extract, & display tweet analytics & sentiments

**Software Developer (DevOps & Machine Learning)** – Molex Canada Ltd.

Sept. 2020 – Dec. 2020

- Revamped **Python** pipelines to stream productivity stats to **InfluxDB**, **MySQL**, & **Grafana**, increasing unit test coverage by **27%**
- Integrated **DeepSORT** tracking algorithm into 3D object detector to safeguard industrial danger zones with **Tensorflow**
- Led creation of centralized **Jenkins** logging system by deploying **AWS Elasticsearch/Kibana** & **Splunk** instances with VPCs & IAM
- Migrated industrial automation microservices from **Docker** to **Kubernetes/Helm** & deployed to **AWS EKS**

**Machine Learning Engineer** – Soapbox Innovations

Jan. 2020 – Apr. 2020

- Developed REST API using **Flask**, **MySQL**, **Docker**, & **Gunicorn** to provide machine learning web services for 100 000+ users
- Built **cron**-scheduled ETL pipeline to dynamically retrain **fast.ai** models on unique client data & upload models to **AWS S3**
- Trained **Keras recurrent neural network** to recommend calendar meetings, achieving **90.1%** validation accuracy

**Junior Software Developer** – GrantMatch

May 2019 – July 2020

- Implemented full-stack web app features (**Django**, **Laravel**, **Vue.js**) to assist analysts in securing government funding for clients

## PROJECTS

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**Automatic Black & White Image Colorizer** 

Apr. 2020

- 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

**BehaviourStack – RyersonHacks Winner (Track Challenge)** 

Sept. 2019

- Created business tool that collects demographics of an advertisement's audience using **ResNet** model & **OpenCV** in real-time

## EDUCATION

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**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)