

Angad Singh Kalra

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github.com/angadkalra

Education

MSc Applied Computer Science September 2018 – December 2019
University of Toronto, Department of Computer Science

BSc Computer Science and Mathematics September 2012 – May 2018
University of British Columbia

Technical Experience

Bridge7 Oncology – Toronto, ON May 2019 - Present

Machine Learning Engineer

- Implemented machine learning pipeline using Keras/TensorFlow and integrated into web app backend using Flask.
- Applied state-of-the-art ML explainability research to inference engine for improved user feedback.

St. Paul's Hospital – Vancouver, BC May 2018 – September 2018

Full Stack Engineer

- Developed a web application allowing doctors to search through patient database and find similar X-rays.
- Built search functionality as a combination of deep learning and Elasticsearch document search.
- Implemented using ReactJS, Django, TensorFlow, Docker, and Elasticsearch.

Centre for Molecular Medicine and Therapeutics – Vancouver, BC May 2017 – August 2017

Machine Learning Research Assistant

- Implemented a deep-CNN in TensorFlow to predict DNA-protein binding probability given DNA sequences as input. Dataset consisted of 80000 DNA-sequences which were transformed to one-hot encodings.

Vision Critical – Vancouver, BC January 2016 – August 2016

Software Developer

- Responsibilities were fixing bugs, writing integration tests, and improving test coverage in deployment pipeline.

Recent Projects

Director of Code the Change Foundation August 2017 – Present

- Founded non-profit organization with purpose of helping nonprofits and charities around the world with their technical needs. 11 projects completed so far and 5 in progress. Website: <http://codethechange.ca/projects.html>

Radiology Protocol Prediction

- Implemented Python script that processes dataset of 22000 patients, performs feature engineering, and trains various ML models (Random Forest, SVM, NN) to predict the correct imaging protocol (171 protocols) for a given patient.
- Achieved 86% mean accuracy on test data with deep neural network.

Early Prediction of Sepsis - PhysioNet 2019 Computing in Cardiology Challenge

- Implemented script in Python that trains various models (Logistic Regression, SVM, Random Forest, XGBoost) on 40000 ICU patients to predict onset of sepsis.

Technical Skills

Programming Languages: Python, JavaScript.

ML Libraries: TensorFlow, Keras, scikit-Learn.

Frameworks: Django, Flask, ReactJS, Docker.