Nicholas Pun

Math Enthusiast • Software Developer

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Experience

Software Development Engineer — Vancouver, BC

Amazon | Route 53 — June 2020 – Current

Engineering Intern — San Francisco, CA

Credit Karma | Developer Efficiency Team — May 2019 – Aug. 2019

- Developed python-based tooling for the deployment, servicing and retrieval of developer environments (Kubernetes clusters on AWS EC2)
- Created a slackbot in Ruby as a user-friendly interface for the above tooling
- Created a health monitoring service in Typescript to record metrics on the environments
- Gained familiarity with Ansible, CircleCI, Docker, Jenkins, and kubectl

Software Developer — Kitchener, ON

Vidyard | Analytics Team — Sep. 2018 – Dec. 2018

- Rewrote Youtube analytics layer in the Ruby on Rails service to provide more accurate data for over 8000 organizations
- Improved error handling and data recovery from Amazon EMR Cluster errors in video analytics generation service (written in Node)

Software Developer — San Francisco, CA

Freckle Education — Jan. 2018 – Apr. 2018

- Created new interfaces for over 9000 school administrators and early learners in React
- Improved the frontend test suite coverage by adding Jest logic and snapshot tests, and maintaining QA testing suite
- Learned the basics of Haskell by making small backend bug fixes and adding Hspec unit tests

Frontend Developer — Mississauga, ON

Finastra — Jan. 2017 – Apr. 2017

- Reduced client-side load time by 20% through frontend optimizations (pagination and reduced payload size)
- Improved regression test coverage by over 50% by writing automated test suites using Protractor
- Designed an improved companion web app from scratch using Angular 2.0

Undergraduate Researcher — Waterloo, ON

Physics of Information Lab – University of Waterloo — May 2016 – Aug. 2016

- Researched new techniques in processing audio data signals using generalized Shannon sampling methods
- Applied techniques to analyze prime gaps and jumping champions. Preprint containing results: https://arxiv.org/abs/1808.00572

Skills

Languages: C/C++, Haskell, Java, JS, Julia, MATLAB, Python, Ruby, Scheme, SML

Infrastructure: Ansible, CircleCI, Docker, Kubernetes

Machine Learning: Keras, Pytorch, Tensorflow

Projects

Deep Learning Specialization

- Completed the 5-course sequence by deeplearning.ai on foundations in Deep Learning.
- Learned and implemented (in tensorflow) optimizers, hyperparameter tuning, CNNs, and Sequence Models (RNNs, LSTM, etc.) through case studies in healthcare, autonomous driving, music generation and NLP

IZ*Net

- Created a neural network system consisting of a face recognition model (trained through triplet loss learning) and a face detection model (implementing the YOLO algorithm) in tensorflow

Education

Bachelor of Mathematics

University of Waterloo 2015 – 2020

Double Majored in Computer Science and Combinatorics & Optimization

Relevant Coursework: Statistical Machine Learning, Distributed Systems, Randomized Algorithms, Combinatorial Optimization, Types and Programming Languages