Nicholas Pun

Math Enthusiast · Software Developer

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Skills

C/C++, Haskell, Java, JS, Julia, Lean, MATLAB, Python, Ruby, Scheme, Ansible, CircleCI, Docker, Kubernetes, Keras, Pytorch, Tensorflow

Experience

Software Development Engineer
Palo Alto, CA

Level 5 (Woven Planet)   May 2021 – Current

- Developing C++ visualization tools for the development, validation and evaluation of autonomous vehicle software
- Owning and building web-based tooling applications to support usage of C++ tooling in complex workflows

Software Development Engineer
Vancouver, BC

Amazon | Route 53   June 2020 – May 2021

- Contributed to the design and maintenance of various Java microservices responsible for serving TLDs to AWS customers
- Leaded effort in migrating services to comply with internal infrastructure requirements

Engineering Intern
San Francisco, CA

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

- Improved developer experience with internal tooling by migrating from Groovy to Python and developing a Ruby slackbot to replace the Jenkins frontend
- Ensured on-call engineer would wake up at 2am by creating a lightweight Typescript service to alert on health-related metrics involving developer environments

Software Developer Intern
Kitchener, ON

Vidyard | Analytics Team   Sep. 2018 – Dec. 2018

- Resolved ongoing accuracy issues by rewriting outdated Rails service & improved resiliency of a video analytics Node service by implementing a smarter data recovery procedure

Software Developer Intern
San Francisco, CA

Freckle Education   Jan. 2018 – Apr. 2018

- Developed fun games and interactive storybooks for early learners in React, made small bug fixes in Haskell backend
- Reduced technical debt by expanding Jest test suite and Hspec unit tests

Projects

Undergraduate Research

University of Waterloo

- Researched techniques in generalized Shannon sampling theory and applied methods towards analyzing patterns in prime gaps and jumping champions.
- Preprint: https://arxiv.org/abs/1808.00572

ARAMNet

- Worked on a toy probability problem concerning fair selection schemes in unequal settings
- Ultimately proved the optimal scheme in the easy case and created a neural network in Pytorch simulate more complex settings

Decentralized Secret Santa

- Demonstration of a decentralized algorithm for Secret Santa

IZ*Net

- Created a custom face detection (YOLO) and recognition neural network model to decent accuracy using tensorflow

Education

University of Waterloo

Bachelor of Mathematics   2015 – 2020

Double Majored in Computer Science and Combinatorics & Optimization, with Business Option

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

deeplearning.ai

Deep Learning & GANs Specializations

- Awarded certificates for completing their 5-course (deep learning) and 3-course (GANs) sequences
- Implemented car detection, speech recognition, music synthesis models and more in the deep learning specialization
- Developed state-of-the-art GANs models (Style-GAN, Pix2Pix, CycleGAN) applied towards image generation and image-to-image translation