

Milind Paliath-Pathiyal



Note: U.S. Permanent Resident

Technical Summary

Programming Languages

Proficient ● *Python, C++, Java, Javascript, HTML*
Familiar ● *Swift, C, SQL, SPARQL*

Tools

Dev. ● *PySpark, TensorFlow, Keras, Hadoop, Grafana, Jupyter Notebook, MATLAB, Scikit-Learn, InfluxDB, Plotly*

Education

University of Waterloo ● B.A.Sc. Candidate in Systems Engineering (Co-op Program) Sep. 2017 - June 2022

Work Experience

Computer Vision Research Intern ● **Cisco Systems, San Jose** 4 mos • Jan. 2020 – Present

- Learning indoor *localization* using Wi-Fi signals produced from wireless access points
 - Understanding mathematics behind triangulation, trilateration, RSSI, ToF, AoA
- Creating *CNN models* on *TensorFlow* to analyze density heatmaps produced from data points
- Creating software to simulate *3D motion* dataset for RF signal detection
- Familiarizing with *channel state information* and *fine-grained image recognition*

Machine Learning Intern ● **Cisco Systems, San Jose** 4 mos • May. 2019 – Aug. 2019

- Worked in *rapid prototyping* phases solving SD-WAN failures in the ML engineering networking team
- Analyzed large *time-series* SD-WAN data with *PySpark* to individualize causes to Cisco's router failures
- Analyzed over 700 million rows of SD-WAN failure statistical metrics with *Scikit-Learn*
- Automated estimation of statistical metrics to identify origins of SD-WAN failure features via *Plotly*
- Pushed *ML statistical visualization dashboards* for SDWAN failure prediction to employee production

Automation Software Developer Intern ● **ThoughtWire, Toronto** 4 mos • Sep. 2018 – Dec 2018

- Extended automated tests and familiarized with containerization using *Docker* and *JUnit*
- Assisted on deployment of the ThoughtWire Ambient platform

Embedded Software Developer Intern ● **Kidney Clinical Research, London** 4 mos • Jan. 2018 – April 2018

- Developed a medical data exporter for Philips Bedside Patient Monitors
- Developed serial communication with *MIB/RS-232* protocols adhering to the IntelliVue Patient Monitor

Project Highlights more projects here @ [Milind's GitHub](#)

Robotics ● **Team Size:**

- Founded and captained robotics team of novice members for 4+ yrs.; attended 5+ regional competitions
- Self-taught applications of autonomous self-drive mode, embedded systems, motors and sensors
- Lead as software (2 yrs.) and hardware (2 yrs.) leads over the course of 4+ years since inception of team

iOS AR Smart Camera ● **Team Size:**

- Used CoreML to classify objects and label objects with 3D floating text through ARKit camera
- Increased frame rate by reducing polygons & converting text package from SceneKit to SpriteKit

Kaggle Research Notebooks ● **Team Size:** View my competition notebooks @ [Milind's GitHub](#)

- **Realtime Vehicle Classification** - CNN model that classifies a vehicle image by returning the model
 - (In progress) Analyze each frame of dashboard video and classify nearby vehicles
- **Breast Cancer Tumor Classification** - CNN model that classifies biopsy images of breast cancer tumors
 - Highly condensed features will train the model to give accurate predictions of abnormal images
- **Apple iOS App Rating Prediction** - Predict whether an app will receive a rating over 4.
 - Learned how to effectively clean input data and predict app rating using KNN

Bicycle-Camera Safety Device Patent ● **Team Size:**

- Inspired to innovate smart device to prevent the increasing count of vehicle-bike collisions in hometown
- Device connects to bicycle seat; prevents hit-n-runs and provides visual aid for vehicle drivers

Extras

- IBM Watson Award @ Menlo Hacks 2018, (2x) 1st Place Award @ Saratoga Hacks
- Completion of ML courses on Kaggle & enrolled in MIT Course 6.S191 (Introduction to Deep Learning)
- 3 years of Swift experience, 5 personal iOS apps (2 of which available on Apple App Store)
- Enjoy playing basketball and participated in competitive water polo and swimming