

# Nathan Ko

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## Skills

### Proficient with:

- Python, Java, C++, JavaScript
- React, Angular, RxJS, Flask
- Linux, Git, design thinking

### Familiar with:

- C, SQL, C#
- Django, scikit-learn, NLTK, Gradle
- Android, Android OS, augmented/virtual reality
- Machine learning, natural language processing

## Education

### Bachelor of Software Engineering Candidate, University of Waterloo

Sep 2016 – Apr 2021

Relevant Courses: Algorithms, Data Structures, User Interfaces, Intro to Artificial Intelligence, Intro to Machine Learning (current), Computer Security (current). GPA: 84.2% (3.7)

## Experience

### Software Engineering Intern, Interaptix

Jan – Apr 2020

- Improved user experience on HoloLens augmented reality apps by developing support for intuitive hand “swiping” gestures in C#.
- Researched machine learning techniques for unsupervised texture transfer from 2D images to 3D models.
- Automated workflows for generating photorealistic virtual scenery of industrial products from 3D models with Unreal Engine and Python.
- Created project management and analytics dashboards using React and Django.

### Software Developer Intern, Deigo

May – Aug 2019

- Integrated PCI 3-D Secure authentication for credit card transactions in an e-payments product to reduce fraud and merchant chargeback liability.
- Decreased environment setups and build times by up to 90% by automating build workflows using Gradle.
- Added new customer-facing features for several e-payments apps using Angular, RxJS and Java.

### Software Prototyper Intern, Deloitte

Sep – Dec 2018

- Spearheaded the front-end development of an insurance portal using Angular and design thinking.

### Security Software Development Intern, BlackBerry

Jan – Apr 2018

- Developed enterprise security features on Android by extending administrator control over system services.
- Enhanced Wi-Fi security for NIAP certification compliance by extending the Android hardware abstraction layer and WPA supplicant to perform additional authentication using C++ and C.

### Software Systems Developer Intern, Government of Canada

May – Aug 2017

- Prototyped a job monitoring and notifications system for a proprietary cloud analytics platform.

## Projects

- **AwesomeListr** — Created a search engine for GitHub community-curated notes (“awesome lists”), including a web crawler, document parser, text classifier (using scikit-learn and NLTK) and a React/Flask web app.
- **Reverse Dictionary App** — Built an app that searches for entries in the English dictionary that fit a given definition using natural language processing with scikit-learn and NLTK.
- **Computer Vision Face Tracker** — Developed a web app in Python using OpenCV and Flask that detects and tracks faces from a video stream and stores the data in MongoDB.