

# Khoa Nguyen

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## EDUCATION

### Bachelor of Science in Computer Science

Sep 2019 - Present

University of Washington, Seattle, WA

- **GPA: 3.8 (Senior) | Expected graduation: Jun 2021**
- **Relevant Coursework:** Computer Graphics, Machine Learning(\*), Natural Language Processing(\*), HCI(\*), Data Structures and Parallelism, Hardware/Software Interface, Software Design and Implementation, Systems Programming, Intro to Data Management, Linear Algebra, Differential Equations, Multivariate Calculus.

## SKILLS

- Backend and System Development** - Java, C/C++, Assembly, Bash, SQL, SQL++, Neo4j, Apache Spark.
- Frontend and App Development** - Android Development, XML, React, TypeScript/Javascript, HTML, CSS.
- Machine Learning and Data Analysis** - Python, TensorFlow, PyTorch, Pandas, Sklearn, OpenCV.

## WORK EXPERIENCES

### Research Assistant

Aug 2020 - Present

Makeability Lab, University of Washington, Seattle, WA

- Working under guidance of **Professor Jon E. Froehlich** and in collaboration with PhD student Dhruv Jain.
- Developing smart watch application on Android that provides glance-able, always-available sound, visual, and haptic feedback to people who are deaf or hard of hearing (DHH).
- Utilizing **VGG-Lite** classification model to identify 30 different and most-commonly heard sounds ranking by the **DHH community**.
- Building a **beautiful, responsive, and adaptive UI** on Android and Wear OS that target on ease-of-use and accessibility.

### Software Engineer Intern

Jun 2019 - Sep 2019

Cinnamon AI, Inc, Ho Chi Minh City, Vietnam

- Built a **Machine Learning Model** (Name-Entity-Recognition) to help automate the data extraction from unstructured documents such as Invoices, Financial Statements, and Business Contracts with **TensorFlow** and **Keras**.
- This **NLP** model was integrated into the company's API to implement a Key-value extracting application called **Flax Scanner**.
- Performed **data manipulation, augmentation** and **information retrieval** to achieve accuracy of **98.7%** based on text lines.
- Received outstanding feedback from mentors for accelerating our product launch time by **2 weeks**, which save money for the company.

### Teaching Assistant

Mar 2018 - Jun 2019

Pierce College, Puyallup, WA

- Spent 16 hours/week on teaching sessions and office hours for Math and CS-related subjects: Statistic, Linear Algebra, and OOP.
- Managed a session of 16-20 students with different background, with **100% students** meet their desired GPA at the end of the quarter.

## PROJECTS

### SoundWatch: Always-Available Sound Recognition for DHH - <https://play.google.com/store/apps/details?id=com.wearable.sound>

- Android-based app designed for commercially-available smart watches to provide glance-able, always-available, and private sound recognition in multiple contexts (Now available on Google Play Store)
- Use a deep learning-based sound classification engine (running on watch or phone) to continually sense and process sound events in real-time.

### EasyInventory: Android Inventory Control App

- An elegant inventory tracking solution, using **Google Firebase** to help businesses to track and update their inventory.
- Features: Automatically scan QR Code of an item (utilizing Google's latest **MLKit API**) to check for its inventory data. Convert the data into comma-separated values, which can be exported to a .csv or .xlsx file for logistic management purposes.

## AWARDS

### World Robot Olympiad - 2015 Team Leader, Engineer

- **Ranked 12th place out of 55 teams globally.**
- Designed and created a robotic systems whose mission is to discover, do mapping, and gather crucial information on hazardous and unexplored mineral caves.
- Solved the maze traversal problem using Wall Follower (Right-hand Rule) and A-Star algorithm.