

# Kevin He

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Canadian Citizen

## Skills

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**Programming** Python, C/C++, Javascript, Java, MySQL  
**Frameworks** Tensorflow, Flask, Spring, Node.js, React, Webpack, Git

## Work Experience

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### Tencent

Oct. 2020 - Jan. 2021

MACHINE LEARNING ALGORITHM ENGINEER

Shanghai, China

- Worked on an **AutoML** model optimization system designed to deliver the most optimal hyperparameters for user input data
- Implemented Hyperband and BOHB **hyperparameter opt. algo.**, improving the performance of Tencent's HPO framework by **10.9%**
- Developed an automated hyperparameter-optimizing training module for Tencent Ti-One using **Flask** backend
- Assisted in the training of deep learning models such as ResNet **CNN** using **Tensorflow**

### Bilibili

Jan. 2020 - May. 2020

BACKEND DEVELOPER

Shanghai, China

- Took part of Project Hawkeye, a **Java Spring**-based web scraping project monitoring all competitive products in the PVC figure category and sales data with **MySQL** database and **Redis** cache
- Increased precision of product name matching algorithm by **14%** using word separation analysis and one-hot encoding + cos similarity
- Developed a new scraping system using **pm2** task clustering and the **Node.js** Puppeteer library, capable of handling **8000+** requests per hour, superseding the previous one by **700%**
- Enhanced the project's anti-scraping bypass methods using **ADSL IP proxy** rotation and building **cookies + user-agent database**

### Ford Motor Company

May. 2019 - Sep. 2019

FULL-STACK DEVELOPER

Waterloo, Canada

- Engaged in the Vehicle Infotainment bug report system developed in **Java Spring** and **Tomcat** server with **Knockout.js** frontend and **Splunk** database management
- Raised system user count by **20%** by improving report processing capabilities and displaying critical information from vehicle to users
- Increased frontend report clarity and critical data awareness by executing a major overhaul to the processing system's Knockout.js UI, adding better visuals and gathering vital build information

## Projects

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### Project Ava (Python, Javascript)

Sep. 2019

- Created a website that returns video indexes of a politician's speeches that summarizes their stances on major issues
- Implemented video indexing using **Microsoft Azure** Video Indexer API and front end using **React**, and hosted back end on **GCP**

### Privacy Policy Index (Python, React)

Sep. 2019

- Developed an analysis program using machine learning to determine the readability + quality of privacy policies
- Implemented a linear regression machine learning model to determine the quality of policies on a scale from 0 to 5 based on the complexity of the policy's vocabulary
- Designed front end web UI with **Ant Design**, a **React** library, and **Flask** backend

### PAC-man.c (Arduino, C/C++)

Oct. 2018

- Developed modern implementation of Pacman in **C** that runs in terminal, controlled by an **Arduino** modified as a gamepad
- Executed game design and implementation in **C** and programmed the modified Arduino controller in **C++**

## Education

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### University of Waterloo

Sep. 2018 - Jun. 2023

B.S. IN SOFTWARE ENGINEERING

Waterloo, Canada