

# Taoyuan Wang

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## EXPERIENCE

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### Software Engineer in Alphabet's Wing

10/24/2022 – Present

*Uncrewed Traffic Management Team*

*Palo Alto, CA*

- Designed and developed distributed real-time applications for autonomous drone delivery service (backend with C++ and frontend with Angular on Google infrastructures)
- Implemented configuration systems and supervisor interfaces based on Google map telling drones when and where they are allowed to fly in a timely, reliable manner
- Worked on backend handlers and validators (e.g. polygon self-intersection, vertices duplication, loop clockwise, retrying logic for RPC calls to avoid race conditions, etc)
- Migrated critical data and refactored legacy codes to serve the next generation of aviation

### Software Engineer in Appen US

10/01/2021 – 10/21/2022

*Computer Vision Tools Team*

*Sunnyvale, CA*

- Led the design and development of smart annotation tools for multi-sensor data (frontend with React and Three.js, backend with Flask and Spring)
- Extended pointcloud cuboid annotation to semantics segmentation as side project then got accepted as a new product (got 20+ top customers in autonomous vehicle and robot industries)

### Software Engineer in Appen China

04/01/2019 – 09/30/2021

*Computer Vision Tools Team*

*Shanghai, China*

- Built for China platforms to support local market (assist in setting up new branch office in China as first engineer)
- Researched on pointcloud object detection/tracking and used opensource projects to increase annotation efficiency
- Conducted sensor fusion experiments based on client device parameters (e.g. LiDAR/camera position, rotation, focal length, etc) with NumPy to project points from 3D to 2D domain
- Implemented event loggers and worked with data scientists to analyze behavior of annotators for training process and tools improvement (reduce annotation cost by 56%)

### Software Engineer in Works Applications

04/02/2018 – 03/29/2019

*AI WORKS HUE Tech Lead Group*

*Shanghai, China*

- Developed product frontend with Vue.js
- Developed product backend with Spring, Hibernate and JUnit

### Research Assistant in Academia Sinica

12/13/2017 – 03/09/2018

*Natural Language Processing Lab*

*Taipei, Taiwan*

- Researched on Chinese Short Text Conversation chatbot
- Implemented sequence to sequence models with PyTorch
- Maintained a large repository of post-comment pairs from Weibo datasets
- Used appropriateness scores of comments as reward for reinforcement learning

### Mandatory Military Service

11/10/2016 – 10/27/2017

*Information Technology Specialists*

*Tainan, Taiwan*

## EDUCATION

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### National Tsing Hua University

Hsinchu, Taiwan

*M.S. in Computer Science (Researched in Internet Lab)*

*Sep 2015 – Aug 2016*

### National Tsing Hua University

Hsinchu, Taiwan

*B.S. in Computer Science (Exchanged to Beijing Tsinghua and Nagoya University)*

*Sep 2010 – Aug 2015*

## SKILLS

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**Languages:** Python, JavaScript, Java, C/C++

**Frameworks:** Flask, React/Redux, Spring, JUnit, Jest, pytest

**Developer Tools:** Git, Docker, Jenkins, Jupyter Notebook, PyCharm, WebStorm, IntelliJ IDEA

**Libraries:** NumPy and WebGL using Three.js for 3D data visualization