Taoyuan Wang

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EXPERIENCE

Software Engineer in Alphabet's Wing — 10/24/2022 – Present
UAS (Uncrewed Aircraft Systems) Traffic Management (UTM) Team — *Palo Alto, CA*

- Designed and developed distributed real-time applications for autonomous drone delivery service (backend with C++ on Google infrastructures)
- Implemented configuration systems and operator interfaces based on Google Maps, enabling timely four-dimensional (three-dimensional plus time) restriction annotations and enforcement, ensuring adherence to safety protocols
- Worked on backend handlers and validators (e.g. polygon self-intersection, vertices duplication, loop clockwise, retrying logic for gRPC 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 AI-assisted annotation tools for multi-modal data (frontend with React and Three.js, backend with Flask and Spring)
- Extended point cloud cuboid annotation to semantics segmentation as a side project then was adopted as a new product, attracting 20+ leading clients in the autonomous vehicle and robotics sectors

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, serving as the founding engineer for Appen China
- Researched on point cloud object detection/tracking to enhance annotation efficiency using open source projects
- 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, collaborated with UX designers and data scientists to study the behavior of annotators for training process and annotation tools improvement, resulting in a 56% reduction in labelling costs

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

Military Service in Social Welfare Department — 11/10/2016 – 10/27/2017
IT Specialist for electronic documents persistence and systems maintenance — *Tainan, Taiwan*

EDUCATION

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

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