

TZU-YANG KUO (TK)

Last updated date: Jan 26, 2025

Personal Site: tzuYangk.com

Email: nmakerbsiwill@gmail.com

Selected Experience

Google, Inc. (*current*)

New Taipei City, Taiwan

Pixel Camera ISP (Feb. 2024 - present)

- Implemented Image Signal Processing simulation for many Pixel devices

Nest Wi-Fi device SW (Feb. 2022 - Feb. 2024)

- Delivered software releases for [Google Wi-Fi products](#)
- Implemented [Google One VPN](#) services on [Google Wi-Fi products](#) (main contributor)

Trend Micro Inc., Web Reputation Service (WRS), Backend Engineer

Taipei City, Taiwan / Jan. 2021 - Sept. 2021

- Implemented a spear-phishing detection service (main contributor)
 - Blocked ~400 spear-phishing sites/day with over 98% accuracy based on visual similarity
 - The service was deployed on AWS EC2
 - Detection model was auto-fine-tuned based on [Urlscan.io](#) data feed
- Developed a real-time ransomware warning system for enterprise clients (contributor)
 - Secured 5% enterprise clients (statistics based on data from May to July 2022) by detecting Cobalt-Strike (a widely-used tool by ransomware attackers) web traffic

AtlanIn, Founder (*non-profit personal project*)

Taipei City, Taiwan / Dec. 2020 - Dec. 2021

- Provided customized AI solutions for anime studios in Taiwan or Japan

Monash University, Visiting Student Researcher

Supervised by Li Li and co-worked with Jiawei Wang

Melbourne, Australia / May 2019 - July 2019

- **Published paper at ASE 2020 (co-first author)**
 - Jiawei Wang*, **Tzu-yang Kuo***, Li Li, Andreas Zeller. Assessing and Restoring Reproducibility of Jupyter Notebooks. *International Conference on Automated Software Engineering (ASE)*, 2020
- Created Osiris to repair Jupyter Notebooks (main contributor)
 - Boosted the reproductivity ratio of Jupyter Notebooks from 5% to 82%, experimenting on around 1 million notebooks crawled from Github
 - We dived into root causes of failures and constructed a shell interface to auto-fix errors within environments and source codes.

The Hong Kong University of Science and Technology, Undergraduate Researcher

Supervised by Shing-Chi Cheung and mentored by Yongqiang Tian

Hong Kong / Jan. 2019 - July 2019

- Created DeepMutationOperators (open-source toolkit) for deep-learning mutation testing (main contributor)
 - Implemented 16 mutation operators in DeepMutationOperators for analyzing deep-learning models and training dataset.
- Implemented EvalDNN (open-source toolbox) for evaluating deep-learning models (contributor)
 - Supported multiple machine-learning frameworks and metrics (e.g., accuracy, robustness, and neuron-convergence) with 79 models evaluated.

Selected Awards

Entrepreneurship Acceleration Fund, HKUST

Received in 2021

Awarded to prospective startups founded by students or alumni

Undergraduate Research Opportunity Program Support Grant, HKUST

Received in 2020

Fund granted for the research project “*Detecting Deep Learning Software Defects*”

Education

The Hong Kong University of Science and Technology, Bachelor of Engineering

Hong Kong / Sept. 2016 - May 2020

Computer Science and Engineering (First Class Honors)