

# Ziqi Zhao

RESEARCH INTERESTS: PRIVACY-PRESERVING FEDERATED LEARNING, MODEL COMPRESSION

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## Education

### The University of Hong Kong (HKU)

PhD in Computer Science.

- Supervisors: Professor Ka-Ho Chow and Professor Siu-Ming Yiu

Hong Kong SAR, China

Oct 2024 - Now

### École Polytechnique Fédérale de Lausanne (EPFL)

MSc in Computer Science, GPA: 5.54/6. *Transcript*

- Specialization in Data Analytics

Lausanne, Switzerland

Sept 2020 - Jan 2023

### École Polytechnique Fédérale de Lausanne (EPFL)

Exchange Program, GPA: 5.58/6. *Transcript*

- Courses: Artificial Neural Networks, Convex Optimization.

Lausanne, Switzerland

Feb 2019 - July 2019

### Hong Kong University of Science and Technology (HKUST)

BSc in Computer Science and Mathematics (General Math Track), GPA: 3.62/4.3. *Transcript*

- First Class Honor, 1<sup>st</sup> Major (Computer Science) GPA: 3.79/4.3, 2<sup>nd</sup> Major GPA (Mathematics): 3.61/4.3

Hong Kong SAR, China

Sept 2016 - June 2020

## Publications

“\*\*” indicates equal contribution.

- W. Zhuo, K. H. Chiu, J. Chen, **Z. Zhao**, S.-H. G. Chan, S. Ha, and C.-H. Lee, “Fis-one: Floor identification system with one label for crowd-sourced rf signals,” in *2023 IEEE 43rd International Conference on Distributed Computing Systems (ICDCS)*, IEEE, 2023.
- C. Liu\*, **Z. Zhao\***, S. Süssstrunk, and M. Salzmann, “Robust binary models by pruning randomly-initialized networks,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- W. Zhuo, **Z. Zhao**, K. H. Chiu, S. Li, S. Ha, C.-H. Lee, and S.-H. G. Chan, “Grafics: Graph embedding-based floor identification using crowdsourced rf signals,” in *2022 IEEE 42nd International Conference on Distributed Computing Systems (ICDCS)*, IEEE, 2022.
- J. Tan, E. Sumpena, W. Zhuo, **Z. Zhao**, M. Liu, and S.-H. G. Chan, “Iot geofencing for covid-19 home quarantine enforcement,” *IEEE Internet of Things Magazine*, vol. 3, no. 3, pp. 24–29, 2020.

## Selected Research Projects

### Network Pruning in Adversarial Training

Semester Project at Image and Visual Representation Lab, EPFL. Supervisor: Prof. Sabine Süssstrunk. Score: 5.75/6

- Proposed an algorithm to find robust subnetworks from randomly-initialized binary networks based on Strong Lottery Ticket Hypothesis.
- Designed an adaptive pruning strategy to balance subnetwork search space and expression power.
- The binary subnetworks showed competitive performance among state-of-the-art full-precision ones and saved more than 30% FLOPs.
- This work has been published in **NeurIPS2022**: Robust Binary Models by Pruning Randomly-initialized Networks

Lausanne, Switzerland

Feb 2021 - Oct 2022

### Floor Identification with Network Embedding

HKUST. Supervisor: Prof. Gary Shueng Han CHAN.

- Proposed a novel algorithm to efficiently and accurately identify a user’s current floor using received Wi-Fi signals and limited labels.
- Modeled Wi-Fi signals as a bipartite graph and applied network embedding to solve the missing value problem.
- Achieved nearly 100% of identification accuracy and still have over 90% of accuracy when 70% of Wi-Fi access points are missing.
- This work has been published in **ICDCS2022**: GRAFICS: Graph Embedding-based Floor Identification Using Crowdsourced RF Signals.

Hong Kong SAR, China

Feb 2021 - July 2022

## Work Experience

### Ketl.io

Machine Learning Internship

- Developed several web crawlers to scrape and parse publicly available documents.
- Created a pipeline for text translation and summarization of nearly 500k documents in French, German, Italian and English.

Geneva, Switzerland

July 2021 - Sept 2021

## Skills

**Programming** Python (with PyTorch, NumPy, Matplotlib, etc.), HTML/CSS, Javascript, Matlab, Java.

**Miscellaneous** Linux, Shell (Bash/Zsh), Scripting language,  $\LaTeX$ (Overleaf), Git.

**English Proficiency** TOEFL: 102/120 (R29+L25+S23+W25). GRE: 324/340 (V154+Q170+AW3.5).

## Achievements

- 4 times **University’s Scholarship Scheme for Continuing Undergraduate Students (Top 10%)**, HKUST
- 2019 **Reaching Out Award**, Hong Kong Government
- 2017 **Dean’s List in Engineering School**, HKUST