
Education

2019 – Present	University of Cambridge PhD in Computer Science, Supervisor: Prof Cecilia Mascolo Funded by Cambridge Trust, Nokia Corporation and Doris Zimmern Charitable Foundation	Cambridge, UK
2018 – 2019	University of Cambridge MPhil in Advanced Computer Science, Distinction Funded by Doris Zimmern Charitable Foundation	Cambridge, UK
2014 – 2018	University of Hong Kong BEng(CompSc), Bachelor of Engineering in Computer Science, Full Scholarship First Class Honours, Major GPA: 4.15 (Top Score), Overall GPA: 4.07	Hong Kong

Research Experience

- 09/2020 - **Exploring Contrastive Learning for Mobile Sensing (PhD Research), Cambridge**
- Present
- Transferring contrastive learning techniques including SimCLR to mobile sensing
 - Comparing against other semi-supervised learning methods in label efficiency and performance
 - Submitted as an extended abstract to a workshop
- 01/2020 - **Improving Human Activity Recognition through Self-training (PhD Research), Cambridge**
- 08/2020
- Proposed a novel architecture combining self-supervised training and self-training for HAR
 - Achieved up to 5% improvement in F1 score over previous state-of-the-art
 - Up to 10x improvement in label efficiency compared to supervised learning
 - Submitted to IMWUT (under review)
- 12/2018 - **Collaborative Activity Recognition between Multiple Devices (MPhil Thesis), Cambridge**
- 06/2019
- Explored the accuracy-power trade-off of HAR systems with multiple devices
 - Proposed a collaborative model of sensing, which selectively activates devices for signals
 - Shown to reduce the absolute percentage error by 21.6% with less than 1% increase in power
- 03/2019 **Feature extraction and identity matching of manta rays using pre-trained networks, Cambridge**
- Explored the use of pre-trained CNN networks as feature extractors in matching manta rays
 - Used encoding and pooling methods including VLAD and MAC in conjunction with column features
 - Achieved comparable results to the state-of-the-art SIFT-based methods
 - In preparation for a submission
- 06/2018 - **Machine learning for variant calling in single molecule sequencing (Research Internship), Hong Kong**
- 07/2018
- Significantly improved the state-of-the-art performance (F1 score) in identifying insertions and deletions from noisy data (3GS) by utilizing sequence models and feature engineering
 - Explored a range of model architectures and optimized data processing pipeline
 - Developed highly reusable utility functions for visualizing the information captured by deep learning models
 - Published in Nature Machine Intelligence (2020, co-authored)
- 07/2017 - **Classification for pathological images using machine learning (Undergraduate Research Fellow)**
- 05/2018
- Explored practical applications in applying machine learning techniques in digital pathology
 - Cooperated with medical faculty in speeding up diagnosis of Gardnerella Vaginalis infection
 - Implemented Convolutional Neural Networks (Faster R-CNN) for digital pathology
-

Skills

Programming	Python (strong), Java (strong), C & C++ (strong), Haskell (intermediate), Prolog (basic)
Frameworks	Tensorflow/Keras, Scikit-learn
Systems	Windows, Linux, Android
Languages	Cantonese (native) English (proficient) Mandarin (proficient) Portuguese (intermediate)

Leadership and Teaching Experience

01/2020 - 05/2020	University of Cambridge – Demonstrator - Machine Learning and Real-world Data • An undergraduate course on the fundamentals of machine learning: sentiment classification, evaluation metrics, sequence analysis and graph data • Guided and assessed students in completing assignments in 16 practical sessions	Cambridge, UK
03/2019 - Present	Hughes Hall MCR (Official student body), University of Cambridge – IT and Infrastructure Officer • Manages the website of the MCR and facilities of the MCR rooms • Administrates MCR room bookings and the college punt club • Reflects the concerns of the students in college meetings • Collaborates with the college and other MCR members in improving the college life of students	Cambridge, UK
02/2017 - 03/2017	STIMULUS Programme, University of Cambridge – Classroom Assistant / Tutor • Assisted teachers in schools in teaching computer science related topics • Tutored students with weak backgrounds in Mathematics	Cambridge, UK
10/2015 - 10/2016	The Federation of Joint Universities Macao Students in Hong Kong – President • Represented Macao university students in Hong Kong • Collaborated with government departments, sponsors and other organisations • Organized events for both prospective and current students, including university tour, career workshop, experience sharing sessions	Hong Kong & Macao
12/2014 - 09/2015	HKU SERVICE 100 Domestic Workers Empowerment Project – Organizer – Event Organizing Team • Organized full-day movie event with 20+ student helpers and 250+ participants • Collaborated with sponsors • Keeping track of attendance of over 10 events	Hong Kong

Awards and Honours

2019	Doris Zimmern HKU Hughes Hall, Cambridge International & Nokia Corporation Scholarship	
2018	Doris Zimmern HKU-Cambridge Hughes Hall Scholarships (Full funding) Dean's Honours List (4 th year) Undergraduate Research Fellowship Programme	Doris Zimmern Charitable Foundation HKU, Faculty of Engineering HKU, Faculty of Engineering
2017	The ACM-ICPC Asia Regional Contest Qingdao Site 2017 – Silver Medal	ACM
2016	Dean's Honours List (2 nd year) Hong Kong IET Prize 2016 ACM-HK Collegiate Programming Contest 2016 – Fourth Place	HKU, Faculty of Engineering IET Hong Kong ACM Hong Kong
2015	Dean's Honours List (1 st year) Walter Brown Memorial Prizes in Mathematics Special Merit Scholarship (Full Scholarship)	HKU, Faculty of Engineering HKU Macao Foundation
