

Education

Trinity College, University of Cambridge <i>PhD in Engineering - Full industry scholarship</i>	10/2021 – 06/2024 (expected)
Trinity College, University of Cambridge <i>BA & M.Eng Information Engineering - Full Oversea Scholarship & Cambridge Trust Scholarship</i>	10/2017 – 06/2021
The University of Hong Kong <i>B. Eng GPA 3.91/4.3 - HKU Entrance Scholarship</i>	08/2016 – 06/2017
Xiamen No.1 High School of Fujian, China <i>Ranked 68 out of 200,000 in Joint College Entrance Examination, Fujian Province, China</i>	09/2013 – 06/2016

Work Experience

Intern Researcher at Microsoft Software Technology Center, Beijing ◦ Worked in developing cutting-edge knowledge-graph-enhanced recommender systems. ◦ Supervisor: Linjun Shou	06/2021 – 10/2021
Researcher at Computer Laboratory, University of Cambridge ◦ Improved multi-agent path planning with graph attention networks ◦ Supervisor: Amanda Prorok	06/2020 – 09/2020
Researcher at Computer Laboratory, University of Cambridge ◦ Proposed a network-based novel multi-modal feature fusion framework to aid in prediction of psychological disorder. ◦ Developed a self-adaptor(fidgeting) detection system for automated detection of psychological distress ◦ Supervisor: Marwa Mahmoud	06/2019 – 09/2019
Software Development Contractor for Bingo Century Investment Management Limited ◦ Independently developed a real-time news crawling and monitoring system with front-end presentation and server-end analysis ◦ Currently developing an event-driven stock prediction system using Natural Language Processing techniques.	04/2019 - Now
Cloud Engineering Intern in Informetis Europe Ltd. ◦ Developed a Python Django-based website which tracks usage data by IoT devices in Power Supply monitors (which the company manufactures). This information then helps machine learning engineers to develop more accurate algorithm to predict how energy is used by various electrical appliances ◦ Gained skills in database management, involving the use of MySQL, Google Bigtable and Redis Caching.	08/2018 – 09/2018

Projects

Knowledge-aware multi-domain task-oriented dialogue systems (final year dissertation) ◦ Final year project supervised by Prof. Bill Byrne (Head of Information Engineering). ◦ Utilising neural forms of graph networks in dialogue systems. ◦ Awarded Engineering IIB Project Prize.	2020 - 2021
Multi-robot path planning ◦ Supervised by Amanda Prorok. ◦ Imitation learning using Graph Neural Network to communicate between agents. ◦ Utilising graph attention neural network to leverage the performance of moving agents to their goals.	2020 - 2021
COVID-19 diagnosis assist and CT denoising (AIXCOVNET Project Support Member) ◦ Working with Stranks Lab of Cavendish Laboratory, NHS(Addenbrooke's Hospital), Department of Radiology. Supervised by Sam Stranks. Performing CT denoising on datasets of COVID-19 and other commonly-seen lung diseases. ◦ Focusing on Low-dose high-speed CT screening.	2020 - Current
Image reconstruction for hyperspectral microscopy using deep learning ◦ Working together with Stranks Lab of Cavendish Laboratory. Collaborate with VISION Laboratory of Department of Physics. Supervised by Sam Stranks. ◦ Using machine-learning-based methods to denoise and reconstruct physics-informed images obtain by microscopy. ◦ Highly reduced the required laser exposure time for taking images for physics/material research.	2019 - Current
Automatic fidgeting and self-adaptor detection for psychological distress from 2D videos ◦ Developed a fully automated system to detect the fidgeting behaviour (such as touching face by hand and rhythmic body motion). Supervised by Marwa Mahmoud. ◦ Using Gaussian Mixture Model and Fisher Vector for feature fusion and dimension reduction. ◦ Performing classification based on multi-modal features extracted from interview videos.	2019 - 2020

- Recommends popular videos using techniques of machine-learning based text analysis (Latent Semantic Indexing & Latent Dirichlet Allocation) based on teaching plans - [Link](#)
- UCL Institute of Education Knowledge Lab EDUCATE Graduate (with EU grant) + Y Combinator Startup School Graduate + Runner-up, Cambridge University Entrepreneur £2,000 competition (Social Enterprise)

Achievements

Personal Awards

- Engineering Part IIB Project Prize (final year project **First Class Honour**) (2021)
- Runner-up in Integrated Design Project (Robot design challenge in Dept. of Engineering) (2019)
- Airbus Defense and Space Prize 2018 for Mars Lander Design and Programming Contest (Runner Up) (2018)
- 1st Year Structural Design Course Prize (Dept. of Engineering) (2017)
- Full Oversea Scholarship from Trinity College & Cambridge Trust Scholarship (2017)
- Centenary Prize for Top 3 Information, Electrical and Electronics Engineering Final Project of Hong Kong University (2017)
- Third place in Computer Science Projects of 15th China Future Scientist Award Program (2015)
- Silver Medal in Chinese Physics Olympiad (Fujian Division) (2015)

Publications and Presentations ([Link to Google Scholar Page](#))

- **Weizhe Lin**, Indigo Orton, Qingbiao Li, Gabriela Pavarini, Marwa Mahmoud. Looking At The Body: Automatic Analysis of Body Gestures and Self-Adaptors in Psychological Distress. 2021. *IEEE Transactions on Affective Computing*. **Read**
- Zhilin Wang, **Weizhe Lin** and Xiaodong Wu. Learning similarity between movie characters and its potential implications on understanding human experiences. 2021. In *Proceedings of the 2021 NAACL Workshop WNU: 3rd Workshop on Narrative Understanding*. **Read**
- Qingbiao Li*, **Weizhe Lin*** (***equal contribution**), Zhe Liu and Amanda Prorok. Message-Aware Graph Attention Networks for Large Scale Multi-Robot Path Planning. 2021. *IEEE Robotics and Automation Letters (RA-L)*. **<Accepted for publication> Read**
- **Weizhe Lin**, Indigo Orton, Mingyu Liu, Marwa Mahmoud. Automatic Detection of Self-Adaptors for Psychological Distress. 2020. In *Proceedings of 2020 15th IEEE International Conference on Automatic Face & Gesture Recognition (FG 2020)*. **<Oral session> Read**
- Ziheng Zhang*, **Weizhe Lin*** (***equal contribution**), Mingyu Liu, Marwa Mahmoud. Multimodal Deep Learning Framework for Mental Disorder Recognition. 2020. In *Proceedings of 2020 15th IEEE International Conference on Automatic Face & Gesture Recognition (FG 2020)*. **<Oral session> Read**
- Zhilin Wang, Elena Rastorgueva, **Weizhe Lin** and Xiaodong Wu. No you're not alone A better way to find people with similar experiences on Reddit. 2019. In *Proceedings of the 2019 EMNLP Workshop W-NUT: The 5th Workshop on Noisy User-generated Text*. **Read**
- Zhilin Wang, Xiaodong Wu, **Weizhe Lin** and Elena Rastorgueva. Detecting personal attributes through analyzing online forums. 2019. In *Cambridge Language Sciences Early Careers Researchers Symposium*. **Read**

Papers Under Review and in Preparation

- **Weizhe Lin**, Bo-Hsian Tseng and Bill Byrne. Knowledge-Aware Graph-Enhanced GPT2 for Dialogue State Tracking. 2021. In preparation for *EMNLP 2021*.
- Kangyu Ji, **Weizhe Lin**, Affan Iqbal, Lin-Song Cui, Yuqi Sun, Tiarnan Doherty, Qingbiao Li, Miguel Anaya, Yu-Hsien Chiang, Javad Shamsi, Thomas Buddenkotte, Elizabeth Tennyson, Evis Sala, Carola-Bibiane Schönlieb and Samuel D. Stranks. Machine learning facilitates discovery in signal-starved imaging. 2021. In preparation for *Science*.
- Kangyu Ji*, **Weizhe Lin*** (***equal contribution**), Qingbiao Li and Sam Stranks. Physics-aware Hyperspectral Image Restoration. 2020. *Finished Paper. Available upon request*
- Zhilin Wang, **Weizhe Lin**, Xiaodong Wu and Elena Rastorgueva. An investigation into BERT applied to informal language used on Internet forums. 2020. *Under conference review. Available upon request*
- **Weizhe Lin**, Xiaodong Wu, Zhilin Wang and Elena Rastorgueva. Author2Vec: A Novel Framework for Generating User Embedding. 2019. *on Arxiv*. **Read**

Websites I built

- Website of Hercules Cambridge society:
<https://www.herculescambridge.org.uk>
- Website of NLP project LearnAh
<https://learnah.uk>

Society

Skill Leader of Hercules Cambridge (Design Collaboration)

07/2021 – Present

- In charge of society website system design. Leading a small group of (4-5) developers and designers.
- ([Link to society](#))

Data Analysis Mentor of Bridge for Enterprise (NGO)

10/2019 – Present

- Supervise the development of Investor Selector Project (using NLP to filter investors for startups)
- ([Link to society](#))