

Youjing Yu

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Education

Computational and Biological Learning Lab, University of Cambridge
ENGINEERING

Oct. 2023 - PRESENT
PhD in Training

Supervisor: [Professor Guillaume Hennequin](#)

Advisor: [Dr Flavia Mancini](#)

Trinity College, University of Cambridge
ENGINEERING

Oct. 2019 – Jun. 2023
Bachelor of Arts, Master of Engineering

First Year Grades: Unofficial due to COVID-19; 85% Overall.

Second Year Grades: Unofficial due to COVID-19; 77% Overall.

Third Year Grades: 78% Overall;

ranked 19/285 (top 6%) of general engineering;

Fourth Year (Masters) Grades: 80% Overall;

ranked 3/285 (top 1%) of general engineering;

ranked top of Information and Computer engineering.

Awards & Prizes

Cambridge University Research Scholar - Oct 2023

Trinity College Internal Graduate Studentship - Aug 2023;

Trinity College Mathison Prize - Aug 2023;

Trinity College Richard and Valery Garrett Prize - Aug 2023;

Trinity College Prince of Wales Student Award - July 2023;

Trinity College Examination Prize - July 2023;

Department of Engineering AT&T Prize - June 2023;

Trinity College Senior Scholar - July 2022;

Trinity College Examination Prize - July 2022;

Trinity College Summer Studentship - Mar 2022;

Trinity College Senior Scholar - July 2021;

Trinity College Examination Prize - July 2021;

Cambridge Trust Overseas Scholarship - Mar 2019;

Trinity College Overseas Bursary - Mar 2019;

Hwa Chong Diploma with Distinction - 2018;

Singapore Science and Engineering Fair Silver Award
- March 2018;

Publications

- Yu, Y., Shi, Z., & Lipani, A. (2024, June). [Understanding Users' Confidence in Spoken Queries for Conversational Search Systems](#). In *International Conference on Engineering Applications of Neural Networks* (pp. 405-418). Cham: Springer Nature Switzerland.
- Yu, Y., Xia, R., Ma, Q., Lengyel, M., & Hennequin, G. (2024). [Second-order forward-mode optimization of recurrent neural networks for neuroscience](#). *Advances in Neural Information Processing Systems*, 37, 92101-92129.
- Artemev, A., Xia, R., Boyd, B. M., Yu, Y., Dangel, F., Hennequin, G., & Bernacchia, A. (2026). [Exploiting weight-space symmetries for approximating curvature](#). In *Proceedings of the 43rd International Conference on Machine Learning, Proceedings of Machine Learning Research*, 306, 3856-3890.
- Walker, S., Yu, Y., Atkins, N. A Data-Driven Approach for Generalisable Prediction of Hot Gas Ingestion Across Unseen Geometries. (under review)

Experience

Machine Learning Researcher Intern

MediaTek

Machine Learning Team

Oct. 2025-Feb. 2026

- Contributed to research on exploiting weight-space symmetries to construct efficient, structured Hessian approximations from training gradients.

Machine Learning Engineer Intern

Machine Learning Research Team

Myrtle.ai

Jul.2025-Sep.2025

- Developed a low-latency real-time Automatic Speech Translation system deployable on CPU, GPU and FPGA.

Masters Student

Department of Engineering

University of Cambridge

Oct.2022-Jun.2023

- Developed a webcam-based [eye-tracking system](#) to estimate on-screen gaze with Gaussian process regression with a novel kernel.

Research Intern

Department of Computer Science

University College London

Dec.2021-Oct.2022

- Developed a transformer-based multimodal network combining text and audio to estimate questioners' topic-specific knowledge confidence.

Research Intern

Department of Engineering

University of Cambridge

Jul.2021-Oct.2021

- Developed a Flask-based NLP corpus analysis tool featuring two bias-detection algorithms to interactively visualise bias. Implemented a novel debiasing feature and natural-language query processing.

Research Intern

MAGIC Research Group

University of Cambridge

Mar.2021-Apr.2021

- Developed neural networks to identify car plate numbers from videos with unsupervised training.

Student Researcher

Spacept Hackbridge

University of Cambridge

Oct.2020-Dec.2020

- Built a computer vision change detector system for identifying and predicting building damage and forest fires from satellite images.

Student Assistant Researcher

Department of Electrical and Electronic Engineering

University of Hong Kong

Jul.2020-Sep.2020

- Developed deep learning models in for holography image-to-image translation.

Student Researcher

Department of Building

National University of Singapore

Mar.2017-Jan.2018

- Synthesised nano-encapsulated organic particles for thermal insulation applications.

Talks & Posters

- Information Engineering Conference at University of Cambridge: "*Learning without forgetting: how plasticity and dynamics enable continual learning.*" Oct. 2026.
- Poster at Computational and Systems Neuroscience (COSYNE). Mar. 2026.
- Poster at Statistical Analysis of Neural Data (SAND). Jun. 2025.

Teaching

Trinity College, University of Cambridge

Oct.2023 – May.2025

- Engineering Tripos 1A Mathematics

Extra-curricular Activities

Journal Club Coordinator

Biological Learning Group

University of Cambridge

Oct.2024 – Sep.2026

President

Trinity College Badminton Club

University of Cambridge

Oct.2022 – Jun.2023

Member

Hwa Chong Girls' Tennis Team

Singapore

Jan.2017 – Dec.2018

Member

Hwa Chong Junior College Chinese Orchestra

Singapore

Jan.2017 – June.2017

Member

Son-rise Singapore

Singapore

Jan.2017 – Dec.2018

Member

Anderson Secondary School Choir Member

Singapore

Jan.2015 – Dec.2016