TINGCHEN GONG

University College London, London WC1E 6BT

+44 07732145685
tingchen.gong.21@ucl.ac.uk

EDUCATION

University College London (UCL), London — *Msci, Neuroscience (First Class Honours)* *2021 - 2025*

- Integrated undergraduate degree combining Bachelor's and Master's content, leading to a Master of Science degree.
- Modules include: Neural Computation, Foundations of Neuroinformatics, Linear Algebra for Data Science, Introductory Statistical Methods and Programming, Integrative Systems Neuroscience

St. Joseph's Institution, Singapore —*International Baccalaureate (IB) Diploma* (42/45) *2019 - 2020*

- 7 in Mathematics (HL), 7 in Chemistry (HL), 7 in Economics (HL), 7 in Biology (SL), 6 in English Language and Literature (SL), 6 in Chinese A: Literature (SL)

RESEARCH EXPERIENCE

HUB of Intelligent Neuro-engineering Lab, *UCL* *London*
RESEARCH INTERN *June 2024 - October 2024*

- Project: Decoding motor intentions from EEG and fNIRS recordings
- Collected EEG and fNIRS data from human participants and analysed these recordings, decoded fNIRS data using machine learning algorithms like support vector machine (SVM) and random forest
- Implemented a photogrammetry method for spatial registration of fNIRS channels
- Work in photogrammetry method, fNIRS data collection and analysis contributed to two manuscripts

Lesica Lab, *UCL Ear Institute* *London*
DATA SCIENCE INTERN *June 2024 - September 2024*

- Project: Optimisation of neural spike-sorting algorithms for Neuropixels data
- Fine-tuned Kilosort4 parameters to address slow drift and high neuronal density challenges
- Evaluated algorithm efficiency and reliability using quality metrics and automated the generation of evaluation diagrams for streamlined analysis

Visual Cognitive Neuroscience Lab, *Nanyang Technological University (NTU)* *Singapore*
STUDENT CO-PRINCIPAL INVESTIGATOR *July 2023 - October 2023*

- Project: Investigating the uncanny valley effect
- Designed and conducted experiments to understand how human likeness affects robot face perception
- Co-authored a publication, demonstrating that brief exposure to stimuli triggers the uncanny valley effect

Visual Cognitive Neuroscience Lab, *Nanyang Technological University (NTU)* *Singapore*
STUDENT CO-PRINCIPAL INVESTIGATOR *June 2022 - September 2022*

- Project: Investigating how tactile experiences affect visual perception of emotions
- Conducted experiments using Matlab to analyse the influence of tactile stimuli on emotional perception in facial expressions
- Analysed data using SPSS, concluding the project with a report

NanoBio Lab, *Agency for Science, Technology and Research (A*STAR)* *Singapore*
RESEARCH INTERN *January 2021 - May 2021*

- Project: Development of efficient bio-fertilizers for agriculture
- Designed and conducted experiments to examine the effect of plant growth promoting bacteria (PGPB) on the production of IAA, a plant hormone critical for plant growth, both in vitro and in vivo
- Modified the cell colony counting method at the lab
- Created a poster and presented experimental results to lab members

Temasek Lifesciences Laboratory (TLL) *Singapore*
RESEARCH INTERN *November 2019 - January 2020*

- Project: Studying disease resistance gene APX8 in transgenic rice
- Conducted DNA extraction, Southern blotting and real time PCR to identify APX8 overexpression in transgenic rice

THESES

Lesica Lab, *UCL Ear Institute* *London*
FOURTH YEAR DISSERTATION *September 2024 - June 2025*

- Project: Integrating electrophysiological recording and machine learning for online data analysis
- Accelerated deep neural network (DNN) model training, and designed and implemented a pipeline for efficient neural data extraction, processing, model training and testing *in vivo*
- Optimised and trained DNNs using Tensorflow, and evaluated model performance with quality metrics

Neuroscience, Physiology and Pharmacology Department , *UCL* *London*
THIRD YEAR DISSERTATION *October 2023 - March 2024*

- Project: Mechanisms of Itch - Current Research and Future Translation, supervised by Prof Maria Fitzgerald
- Conducted a comprehensive literature review on chronic itch mechanisms and evaluated emerging treatments, identifying key knowledge gaps for future therapeutic development

PUBLICATIONS

- Yam, J., **Gong, T.,** & Xu, H. (2024). A stimulus exposure of 50 ms elicits the uncanny valley effect. Heliyon, 10(6), e27977.

- Chen, J., Yang, H., Xia, Y., **Gong, T.**, Thomas, A., Carlson, T., & Zhao, H. (2025). Simultaneous Mental Fatigue and Mental Workload Assessment with Wearable High-Density Diffuse Optical Tomography. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 10.1109/TNSRE.2025.3551676

- Xia, Y., Chen, J., Li, J., Vidal-Rosas, Ernesto., **Gong, T.,** Loureiro, R., Cooper, R., & Zhao, H. (2025). A deep -learning empowered, real-time, processing platform of fNIRS/DOT for Brain Computer Interfaces and Neurofeedback. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 10.1109/TNSRE.2025.3553794.

WORK

Freelance Tutoring *London, Singapore | 2021 - present*

- Tutored Biology, Maths and Chemistry to high school and middle school students
- Created interest-based programs teaching college-level biology and neuroscience topics to students exploring STEM careers

AWARDS

Singapore School-based Scholarship *Singapore*
SINGAPORE'S MINISTRY OF EDUCATION October 2016 - December 2020

- Awarded by Singapore's Ministry of Education, the School-based Scholarship (full tuition waiver, monthly stipend and free accommodation) is awarded to outstanding students from other Asian countries to study in Singapore for four years

SKILLS

- **Wetlab**: cell culture, molecular techniques
- **Software**: Python, Matlab, SPSS, Tensorflow, large-scale electrophysiology signal analysis, EEG data collection, fNIRS data collection, fNIRS data analysis, machine learning, deep learning