Fu-Te Wong

Contact Information

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Education

2021– Ph.D., Institute of Medical Science, University of Toronto, Canada.

Experience

2024, 2	Graduate Student Researcher Vector Institute, Toronto, Canada
2023, 7	Teaching Assistant: Deep learning Neuromatch Academy, Los Angeles, USA Note:A summer course TA at Neuromatch since 2020-2023 and a Lead TA in 2021
2022, 5-	Ph.D. Student Department of Computer Science, University of Toronto, Canada Research area: Quantum Machine Learning Algorithms, multi-agent RL/LLM for algorithm search
2021, 1-	Ph.D. Student Institute of Medical Science, University of Toronto, Canada Research area: Computational Psychiatry, Neural Engineering, Deep Reinforcement Learning, Quantum Machine Learning
2019, 9-2021	Data Analyst Institute of Linguistics, Academia Sinica, Taiwan Duties: Dynamical topological analysis in multimodal brain imagings (MRI, fMRI, DTI, and MEG) in resting state and tasks of working memory between young and old populations
2019, 6-8	Research Assistant Center for Artificial Intelligence in Medicine, Taipei Medical University Translational Imaging Research Center, Taipei Medical University Hospital Duties: Developing deep learning algorithms for automated diagnosis of idiopathic normal pressure hydrocephalus and brain tumor segmentation; Developing resting-state and task-based functional MRI protocol and data pipeline for clinical assessment; Mild traumatic brain injury studies

2019, 1-5	Research Assistant Department of Medical Imaging and Radiological Sciences, Chang Gung University Duties: Developing machine (deep) learning algorithms for classification of patients with mood disorder based on their multimodal imaging data (fMRI, MRI, perfusion and diffusion datasets)
2017,12-2018	Research Assistant Research Center of Brain and Consciousness, Taipei Medical University Duties: f/MRI, MRS, PET, and Transcriptome Multimodal Network Analysis/Visualization; Cerebellocortical dynamical topological analysis in patients with mood disorder
2017, 9-12	Software Engineer Cybersecurity Technology Institute, Institute for Information Industry
2016, 2017	Visiting Student Modeling and Informatics Lab, National Taiwan University Duties: Setting up computer clusters (with CDH) for large scale and real time neural image data analysis—thunder-project; TensorflowOnSpark; System administrator Project: Alignment of chatbot LU and NLG models with human brain activities in a conversational context
2016, 1-2	Research Assistant The Vision Neuroscience Lab, National Taiwan University Duties: MEG data analysis; building interface to co-register MEG and MRI data visualization
2014 - 2015	Research Assistant Explorer of Perception & Attention Lab, National Taiwan University Project title: Neural and mental representation for the environment—perception and memory of statistical regularities Aims: Studying how our mind and brain extract statistical regularities in the environment with visual perception, attention, and memory operation. Project title: Temporal integration of semantic information under continuous flash suppression

Aims: Investigating neural processing and connectivity of temporal integration of semantic information under continuous flash suppression

Duties: Design behavioral and fMRI experiments; analyzing data (tool: Matlab, SPM, FSL, and Psychtoolbox); coordinator; managed funds

2014 | Licensed Psychologist
Public Health Bureau, Penghu County
Duties: Psychological assessment and therapy

2014 | Visiting Student
Modeling and Informatics Lab, National Taiwan University
Duties: Building up a Hadoop/Spark computer cluster for big data analysis and applied machine learning algorithms to analyze the difference in DSI and genome data sets between people with schizophrenia and control participants

2013 | Licensed Psychologist in Taiwan

2011–2012 | Clinical Psychologist (Full-time Internship)
Taipei Veterans General Hospital, Taipei
Psychiatry Department,
Neurological Institute,
Rehabilitation Center

Publications

Nakaji, K., Kristensen, L. B., Campos-Gonzalez-Angulo, J. A., Vakili, M. G., Huang, H., Bagherimehrab, M., …, Wong, F.-T., … & Aspuru-Guzik, A. (2024). The generative quantum eigensolver (GQE) and its application for ground state search. arXiv preprint arXiv:2401.09253.

Levitis, E., Gould van Praag, C. D., Gau, R., Heunis, S., DuPre, E., Kiar, G., …, Wong, F.-T., …, MAUMET, C. (2021, March 23). Centering inclusivity in the design of online conferences. https://doi.org/10.31234/osf.io/vj5tu

Chen, V.C.-H., Wong, F.-T., Cheok, M.T., Tsai, Y.-H., Chang, Y.-P.E., McIntyre, R.S. & Weng, J.-C. (2021). CNN-based deep learning model for predicting differential suicidality in depressive patients using brain generalized q-sampling imaging. The Journal of clinical psychiatry, 82(2), 19m13225. https://doi.org/10.4088/JCP.19m13225.

Poster Presentations

Wong, F.-T., Lee, R.R.-W., O.J.L. Tzeng, Huang,H.-W., Huang, C.-M. (2020). *Neural oscillations of working memory for spatial and temporal order information: An MEG study.* Poster presented at the Organization of Human Mapping 2020.

Wong, F.-T., Chen, V.C.-H., Tsai, Y.-H., & Weng, J.-C. (2019). *A convolutional neural network based deep learning model to predict depressive patients with suicide at-*

tempts using brain structural imaging. Poster presented at the Neuroscience 2019, Chicago, IL.

Wong, F.-T. & Duncan, W.N. (2018). *The $GABA_A$ receptor binding SCN is more related to ion channel activity-related TBN than cortical thickness SCN.* Poster presented at the Neuroscience 2018, San Diego, CA.

Wong, F.-T. & Yeh, S.L. (2015). *Visual adaptation to mean size occurs without awareness.* Poster presented at the 2015 NTU-Kyoto University Cognitive Neuroscience Symposium: Mental and Neural Representation for the Environment, Taipei.

Wong, F.-T. & Chiang, T.-C. (2012). *The modulation effect of stimuli duration on dual-process system.* Poster presented at the Neuroscience 2012, New Orleans.

Weng, F.-T. & Chiang, T.-C. (2011). *Dual-processing shifting.* Poster presented at the ASSC15, Kyoto.

Chang, Y.-C., Yang, H.-N., Chen, S.-P., Weng, F.-T., & Cheng, C.-P. (2004). *Statistical power in researches of Taiwan's clinical psychology and psychiatry—examples of Chinese Journal of Psychology and Taiwanese Journal of Psychiatry.* Poster presented at the 43th Annual Conference of Taiwanese Psychological Association, Taipei.

Fen, X.-H., Lin, W.-H., Weng, F.-T., Chen, S.-P., & Cheng, C.-P. (2004). *Multiplicity in researches of Taiwan's clinical psychology and psychiatry—examples of Chinese Journal of Psychology and Taiwanese Journal of Psychiatry.* Poster presented at the 43th Annual Conference of Taiwanese Psychological Association, Taipei.

Thesis

Wong, F.-T. (2012). *The effects of the duration of stimuli presentation and positive emotion on Dual-process* (Master's thesis). National Chung Cheng University, Chiayi.

Scholarships and Awards

The Scholarship of Government Sponsorship for Overseas Study (2019)

Second prize winner in 2018 Pixnet-Hackathon: A.I. Image Generation

First prize winner in 2016 Pixnet-Hackathon: A.I. Cloze
The competition aimed at a best artificial intelligent algorithm to answer cloze questions precisely and fast.

Computer Skills

Matlab, Pytorch, TensorFlow (quantum), Qiskit, PennyLane, Python, C/C++, Git, Docker, Django, JavaScript, LaTex

Languages

Taiwanese, Mandarin, English