ZEN JUEN LAU

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Curriculum Vitae

EDUCATION

Master of Clinical Neuropsychology (MClinNeuro)   2022 - Present
Macquarie University

Master of Arts, Psychology, *First Class Honours*   2015 - 2019
University of Edinburgh

SUMMARY

My research interests lie in higher-order cognitive processes and how they are affected by disruptions to neural circuitry in neurological disorders. I am also particularly interested in ideas of brain complexity and entropy and hope to use computational modelling to improve diagnostic and psychological outcomes for neuropsychiatric disorders. On the side, I help to develop open-source software for improving the ease and accessibility of research tools for psychology and neuroscience researchers.

RESEARCH EXPERIENCE

Research Assistant   2019 - Present
Nanyang Technological University (NTU), Clinical Brain Lab, Singapore

     Advisors: Professor S. H. Annabel Chen, Dr. Dominique Makowski
     Project: Investigating the Neurophysiological Correlates of Deception

Honor's Thesis   2018 - 2019
University of Edinburgh, UK

     Advisor: Professor Robert Logie
     Thesis: Flashbulb Memories of Public and Private Events: Detailed but Not Special

Group Research Project   2017 - 2018
University of Edinburgh, UK

     Advisor: Dr. Alexa Morcom
     Project: Associative False Recognition without Prior Recall in Young and Old populations

CLINICAL EXPERIENCE

Mental Health Care Support Worker
SLV.Global Mental Health Placement   June - July 2018

Psychology Intern
Drug Rehabilitation Centre, Singapore Prison Service   May - August 2017

PUBLICATIONS

*joint-first authorship

Lau*, Z. J., Pham*, T., Chen, S. A., & Makowski, D. *(under review)*. Brain Entropy, Fractal Dimensions and Predictability: A Review of Complexity Measures for EEG in Healthy and Neuropsychiatric Populations. *PsyArXiv.*

Pham, T., **Lau, Z. J.**, Chen, S. A., & Makowski, D. *(under review)*. Unveiling the Structure of Heart Rate Variability (HRV) Indices: A Data-driven Meta-clustering Approach. *PsyArXiv.*

Makowski, D., **Lau, Z. J.**, Pham, T., Chen, S. A. *(under review)*. Psychological Determinants of the Susceptibility to Fake News amidst the COVID-19 Pandemic.

Makowski, D., **Lau, Z. J.**, Pham, T., Boyce, P., S H Chen, A. Pyllusion: A Parametric Framework to Generate Visual Illusions using Python. (2021). Perception, 50(11), 950-965.

Pham, T., **Lau, Z. J.**, Chen, S. A., Makowski, D. Heart Rate Variability in Psychology: A Review of HRV Indices and an Analysis Tutorial. Sensors 2021, 21, 3998. ✂

Makowski, D., Pham, T., **Lau, Z. J.**, Raine, A., & Chen, S. A. (2021). The structure of deception: Validation of the lying profile questionnaire. Current Psychology, 1-16. ✂

Makowski, D., Pham, T., **Lau, Z. J.**, Brammer, J. C., Lespinasse, F., Pham, H., Schölzel, C., & Chen, S. A. (2021). NeuroKit2: A Python toolbox for neurophysiological signal processing. Behavior Research Methods, 1-8.✂

Pansuwan*, T., Breuer*, F., Gazder*, T., **Lau*, Z. J.**, Cueva, S., Swanson, L., . . . Morcom, A. (2020). Evidence for age-invariance of associative false recognition. Memory, 28(2), 172-186. ✂

TALKS

Lau, Z. J. (2019). Are Flashbulb Memories Different from Ordinary Autobiographical Memories? British Psychological Society (BPS) Undergraduate Conference 2019, Glasgow, United Kingdom.

POSTERS

Lau, Z. J., Pham, T., Boyce, W. P., Chen, S. A., & Makowski, D. (2021). A Parametric Framework to Generate Visual Illusions using Python. 43rd European Conference on Visual Perception, 22-27 Aug. Online.

TEACHING EXPERIENCE

Teaching Assistant
Clinical Brain Lab, Nanyang Technological University

Introduction to R for Psychological Science	September 2019
Introduction to GitHub Workshop	June 2020

Peer Assisted Learning (PALS) Tutor
Psychology Department, University of Edinburgh   September 2018 - May 2019

Lead class discussions and organize academic-based resources for pre-honours psychology students to consolidate learning. Conduct drop-in sessions to discuss course material, assignments and tips for exam preparation. Sessions designed for students in *PSYL08001*, *PPLS08001*, *PSYL08011*, *PSYL08012*.

PROFESSIONAL AFFILIATIONS AND SERVICE

Graduate Member, **British Psychological Society**	2021
Reviewer, **Journal of Open Source Software**	2021 - Present

SPECIALIZED SKILLS

Project Management	IRB Applications, Progress reports, Publications,
	Conference posters, Financial budgeting
	Participants Recruitment, Training student RAs
Data Collection Methods	Qualtrics, Behavioural, EEG, fMRI
	Electrocardiogram (ECG), Electrodermal activity (EDA),
	Electromyography (EMG), Respiration, Electroocoulogram (EOG)
Research Stack	R, Python, E-prime®, PsychoPy, jsPsych, Git, LaTeX, AcqKnowledge
Languages	English (Native), Mandarin Chinese (Native), Hokkien (Basic)

ADDITIONAL TRAINING

fMRI Preprocessing and Analysis Workshop   November 2021

3-day workshop organized by Dr Joyce Wu Chiao-Yi (Clinical Brain Lab, NTU) on Matlab and SPM12 for fMRI analysis

Human Brain Mapping Educational Courses   June 2021

Organization for Human Brain Mapping (OHBM) 2021

First Aid Courses   June 2021

> Certified in Psychological First Aid, Pandemic First Aid, and First Aid Kit mastery for support during emergencies and their aftermaths in a 22-hour long course organized by Singapore First Aid Training Centre

Creating Experiments in PsychoPy   October 2020

> Intensive training in research methods and programming at a postgraduate level by Open Science Tools Ltd

CITI Certification   August 2019

> Collaborative Institutional Training Initiative for Ethics and Scientific Integrity in Research

ERIC Certification   August 2019

> Epigeum Research Integrity Course - Social and Behavioural Sciences Track

HONORS AND AWARDS

Healthcare Graduate Studies Award
Full-ride postgraduate scholarship offered by Ministry of Health Holdings, Singapore to read Clinical Psychology (Neuropsychology) in Australia   2021

Edinburgh Award
Recognition of contribution as Psychology Peer Assisted Learning leader   2019

Principal's Go Abroad Fund
£350 grant awarded by University of Edinburgh to fund SLV.GLobal Mental Health Placement   2018

Edusave Award for Achievement, Good Leadership and Service (EAGLES)
Awarded by Ministry of Education (MOE) (Singapore) for student leadership qualities and excellence in service to community and schools   2014

SERVICES AND LEADERSHIP

Student Ambassador, SLV.Global
Organize and host information sessions on SLV.Global placements at Universities, communicate with different stakeholders, network with students to raise awareness of mental health needs in developing countries.   2019

Recruitment Committee, Psychology Peer Assisted Learning
Recruitment of student leaders to enrol as psychology student academic facilitators.   2019

Editor, Edinburgh University Psychology Magazine
Also author of *Behind Prison Walls: The Psychology of Drug Crime* in Issue *Psychology in the World*. See different issues ⚲ here.   2017 - 2019

Publicity Director, Edinburgh University Singapore Society (EUSS)
Oversee welfare of its members through organizing gatherings, large-scale events, socials, and career information sessions. Manage social media platforms, designing, and publicity strategies.   2016 - 2017

Intern, Beyond Social Services (Singapore)
Work with organizations to provide employment opportunities for low-income individuals, produce financial assistance reports and social reports on socio-economic profiles of clients.   2016

Intern, Psychology Department, AMKFSC Community Services (Singapore)
Plan and deliver conflict management workshops for children with anger management difficulties, practice hands-on Motivational Interviewing and Cognitive Behavioural Therapy.   2015