Yun-Fei Liu

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EDUCATION

JOHNS HOPKINS UNIVERSITY, MARYLAND, MD SEP 2018 – JUN 2020
Master of Arts in Psychological and Brain Sciences

NATIONAL TAIWAN UNIVERSITY, TAIPEI, TAIWAN SEP 2013 – JUN 2015
Master of Science in Biomedical Engineering, *GPA: 4.05/ 4.3*
Concentration: Cognitive Neuroscience, Functional Brain Imaging, Psycholinguistics

NATIONAL TAIWAN UNIVERSITY, TAIPEI, TAIWAN SEP 2009 – JUN 2013
Bachelor of Science in Electrical Engineering, *GPA: 4.08/ 4.3*

PUBLICATION & SELECT CONFERENCE POSTERS

- **Yun-Fei Liu**, Brenda Rapp, & Marina Bedny (2023). Reading Braille by Touch Recruits Posterior Parietal Cortex. *Journal of Cognitive Neuroscience*

- Samuel Nastase, **Yun-Fei Liu** et al. (2021). The "Narratives" fMRI dataset for evaluating models of naturalistic language comprehension. *Scientific data*

- Meir Meshulam, Liat Hasenfratz, Hanna Hillman, **Yun-Fei Liu**, Mai Nguyen, Kenneth Norman, & Uri Hasson (2021). Neural alignment predicts learning outcomes in students taking an introduction to computer science course. *Nature Communications*

- **Yun-Fei Liu**, Judy Kim, Colin Wilson, Marina Bedny (2020). Computer code comprehension shares neural resources with formal logical inference in the fronto-parietal network. *eLife*

- Samuel Nastase, **Yun-Fei Liu**, Hanna Hillman, Kenneth A. Norman, Uri Hasson (2020) Leveraging shared connectivity to aggregate heterogeneous datasets into a common response space. *NeuroImage*

- Fa-Hsuan Lin*, **Yun-Fei Liu***, Hsin-Ju Lee, Claire Chang, Iiro Jaaskelainen, Jyh-Neng Yeh, Wen-Jui Kuo (2019). Differential brain mechanisms during reading human vs. machine translated fiction and news texts. *Scientific Reports * co-first authored*

- **Yun-Fei Liu**, Colin Wilson, Marina Bedny (2023). Neural Representations of Algorithms in the Logical Reasoning Network Are Recycled for Programming Code Comprehension. *Conference poster, Computational Cognitive Neuroscience conference*

- **Yun-Fei Liu**, Marina Bedny (2022). Language system contributes to 'gist' extraction during code comprehension. *Conference poster, annual meeting of the Society for the Neurobiology of Language*

- **Yun-Fei Liu**, Colin Wilson, Marina Bedny (2022). The neural basis of logical reasoning is engaged during the comprehension of algorithms in programming beginners. *Conference poster, annual meeting of Cognitive Neuroscience Society*

RESEARCH EXPERIENCE

NEUROPLASTICITY AND DEVELOPMENT LAB, JHU SEP 2018 –

HASSON LAB, PRINCETON UNIVERSITY NOV 2017 – JUN 2018
Research Specialist II

- Compiled and re-analyzed existing fMRI data using hyperalignment and shared-response model.
- Assisted in an intensive fMRI data collection project. Scanned 20+ participants every other week.
- Contributed to a patch of the BrainIAK tool box developed by the lab.

LAB OF MAGNETIC RESONANCE IN MEDICINE, NTU, TAIWAN   SEP 2016 – SEP 2017
Research Assistant to Dr. Hsiao-Wen Chung.
- Introduced latent semantics analysis (LSA) to the lab, and built the basis to constructing the Traditional Chinese Coh-Metrix.

BRAIN IMAGING LAB, NTU, TAIWAN   FEB 2014 – JUN 2015
Research Assistant to Dr. Fa-Hsuan Lin
- Introduced inter-subject neuronal correlation analysis method to the lab.
- Conducted pioneering study using natural stimulation paradigm.

CELL BEHAVIOR LAB, NTU, TAIWAN   SEP 2012 – JAN 2014
Research Assistant to Dr. Po- Ling Kuo
- Assisted in the development of collagen-based 3D cell culture scaffold.
- Assisted in the study of shear wave imaging.
- Managed main experiment subjects such as melanoma cells, A549 cells, and 3T3 cells.

AWARDS AND FUNDING

2023	*G. Stanley Hall Scholar's Award, JHU*
2023	*COVID Relief Dissertation Completion Award, JHU*
2021	*Alumni Choice Award, Three Minute Thesis competition, JHU*
2021	*Robert S. Waldrop Junior Investigator Award, Dept. of Psychological and Brain sciences, JHU*
2020	*Walter L. Clark Teaching Award, Department of Psychological and Brain sciences, JHU*
2019-2020	*Study Abroad Scholarship, Ministry of Education, Taiwan*
2015	*3rd Place, Three Minute Thesis competition, NTU*
2013	*Gold Medal Award, Long Story Short presentation competition, NTU*

PROFESSIONAL EXPERIENCE

NEUROSKY COMPANY, TAIPEI, TAIWAN   JUN 2014 – SEP 2015
Research Intern and Business Development Agent
- Collaborated with MacKay Memorial Hospital to conduct clinical data collection and analysis for research on heart-rate variability (HRV) algorithm and an ECG device.
- The research resulted in a chip later utilized by ASUS Inc. to develop the "ASUS ZenWatch".
- In charge of collaboration with Sony's internet business unit, So-Net Entertainment Taiwan Limited and, Hack NTU, a non-profit platform facilitating nation-wide innovation and entrepreneurship.

TECHNIQUES AND SKILLS

- **Scientific**: *fMRI data collection and analysis (GLM analysis with FreeSurfer; inter-subject correlation; inter-subject functional correlation; shared-response model; representational similarity analysis and other multivariate pattern analysis); machine learning/data science;*
- **Software skills**: *Microsoft Office System (Especially proficient in PowerPoint), Adobe Photoshop, Adobe Illustrator, Corel VideoStudio, Audacity*
- **Programming Skills**: *C++, Python, R , MATLAB*
- **Language Skills**: *Chinese (native), English (almost native), Japanese (proficient, JLPT N1), French (primary)*

SELECT TALKS AND LECTURES

- **"Neural Recycling of Logical Reasoning Network for Programming Code Comprehension"**, *symposium talk at the 2022 annual meeting of the Cognitive Neuroscience Society*
- **"If either LOGIC or CODE then not (so much) LANGUAGE"**, *guest lecture at Foundations of Logical Thinking, taught by Dr. Dr. Nicolò Cesana-Arlotti, 2022*
- **"Thinking Animals, Thinking of Animals"**, *guest lecture at Introduction to Psychology, taught by Dr. Chaz Firestone, 2019*