

HOKI FUNG

Cognitive Scientist

✉ hokifung@berkeley.edu

🌐 <https://www.hokifung.com>

EDUCATION

National University of Singapore 📅 2020 - 2022

M.Comp. Artificial Intelligence

Relevant Courses: Neural Networks and Deep Learning I & II, 3D Computer Vision, Knowledge Discovery and Data Mining, Uncertainty Modeling in AI

University College London 📅 2015 - 2016

M.Res. Cognitive Neuroscience 🏆 Merit

Advisor: Assoc. Prof. Sam J. Gilbert

Thesis: Decoding intentions of self and others from fMRI (P. in NeuroImage)

University of California Berkeley 📅 2013 - 2015

B.A. Psychology, (Minor) Education 🏆 Departmental Honors

Advisors: Prof. Alison Gopnik, Dr. Adrienne O. Wente

Thesis: A cross-cultural study on causal inferences (Published in PNAS)

Professional Membership: Psi Chi Berkeley Undergraduate Chapter

RESEARCH EXPERIENCES

🔗 [More Details](#)

Graduate Research Intern 📅 2021 - pres.

Laboratory for Affective and Translational Neuroscience (LATN)

McLean Hospital/Harvard Medical School, USA

- Leading an **fMRI-based functional connectivity analysis** using recently developed brain mapping methods
- Performing **statistical modeling** and **multi-level analyses** linking clinical, behavioral, and brain measures from a **clinical population**

Research Associate/Data Scientist 📅 2019 - 2021

Sleep and Cognition Laboratory and Clinical Imaging Research Centre

YYL School of Medicine, National University of Singapore

- Initiated a study that investigates habits, global cognition, and brain structure in **healthy children** through analyzing a **large, public dataset** that has 10,000+ participants using **machine learning**
- Led multiple **MR data analyses** for **clinical studies** that involve different clinical groups, designs, and MRI modalities (**fMRI, sMRI, dMRI**)
- Implemented an automated preprocessing pipeline for brain images with stroke lesions that uses **deep learning** to perform lesion segmentation

Research Associate 📅 2016 - 2018

Clinical Brain Lab - Nanyang Technological University, Singapore

- Led a **multimodal study** (from experimental design to data collection to manuscript write-up) involving 100+ **healthy** and **ADHD** participants
- Analyzed a **resting-state fMRI** dataset from **MCI** patients using **DARTEL** preprocessing and Independent Component Analysis (**ICA**)
- Helped standardize the lab's **SPM** preprocessing pipeline and developed **Matlab** scripts to automate the pipeline

Graduate Research Assistant 📅 2015 - 2016

ICN Metacognition & Executive Functions Group - UCL, UK

- Conducted an **fMRI** study to decode **human intentions** using **MVPA**
- Led recruitment, **cognitive task scripting**, data collection & analysis

Undergraduate Research Assistant 📅 2013 - 2015

Gopnik Cognitive Developmental Lab - UC Berkeley, USA

- Assisted in **subject recruitment** and **behavioral data collection**
- Established an online testing procedure (**Qualtrics** & **MTurk**) for the lab
- Organized workshops** to introduce these online tools to lab members including Post-docs, PhD students, and Research Assistants

RESEARCH INTERESTS

🧠 **Cognitive Neuroscience**

Higher executive functions such as cognitive processes involved in decision-making in healthy and clinical populations

🧪 **Research Methods**

A combination of neuropsychological experiments, multimodal neuroimaging (fMRI, sMRI, dMRI), and computational modeling

📊 **Data Analysis Techniques**

A mix of statistical modeling, machine learning, and deep learning. Univariate, multivariate, functional connectivity, surface-based, and tract-based analyses for MR data

SELECTED SKILLS

Python	R	Matlab	Bash	Git	SQL	HPC	E-Prime
SPSS	JASP	FreeSurfer	SPM	FSL	Caret	TensorFlow	
Project Management	LaTeX	Video Editing	Web Development				

SELECTED POSTERS

- Fung H.**, Ong J.L., Yeo B.T.T., & Chee W.L.M. (2021, June). Associations of Sleep Duration with Global Cognition and Gray Matter Volume in Children aged 9 to 11. Poster presented at the Annual Meeting of OHBM, Virtual.
- Fung H.**, Gan S.R., Gupta, B., Ho R.C., & Chen S.H.A. (2019, June). An fMRI investigation of hot and cool executive functions in adults with ADHD. Poster Session at the Annual Meeting of OHBM, Rome, Italy.

SELECTED PUBLICATIONS

- Gilbert, S. J. & **Fung, H.** (2018). Decoding intentions of self and others from fMRI. *NeuroImage*, 172, 278-290. doi:10.1016/j.neuroimage.2017.12.090
- Gopnik, A., O'Grady, S., Lucas, C., Griffiths, T., Wente, A., Bridger, S., Aboody, R., **Fung, H.**, and Dahl, R (2017). Changes in cognitive flexibility and hypothesis search from childhood to adolescence to adulthood. *Proceedings of the National Academy of Sciences*, 114(30), 7892-7899. doi:10.1073/pnas.1700811114

SELECTED AWARDS

- 🏆 Sector Winner, Asia DeepTech Comp. 📅 2019
- 🏆 Grand Prize, RR Data Challenge (Asia) 📅 2019
- 🏆 Trustee's Prize for General Excellence 📅 2013
- 🏆 Harry L. Kreshpane Prize 📅 2012

Please refer to my [CV](#) for a full list of work experiences, international conference presentations, and publications.