

# HOKI FUNG

Research Associate, Data Scientist

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🔗 <http://www.hokifung.com>

## EDUCATION

University College London 📅 2015 - 2016

**M.Res. Cognitive Neuroscience**

Advisor: Assoc. Prof. Sam J. Gilbert

Thesis: Decoding intentions of self and others from fMRI (Published)

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)

Membership: Psi Chi Berkeley Undergraduate Chapter

## RESEARCH EXPERIENCES

🔗 More Details

Research Associate/Data Scientist 📅 2019 - Now

**Yong Loo Lin School of Medicine - National University of Singapore**

**Clinical Imaging Research Centre - National University of Singapore**

- Co-leading a functional Sodium MRI project
- Performing MR data analysis to evaluate the efficacy of a brain-computer interface intervention for stroke patients
- Designed and trained a deep learning model for automated stroke lesion segmentation using 3D UNets

Data Analyst (Intern) 📅 2018 - Now

**Datature Analytics, Singapore** 🏆 Hackathon Champion

- Assisted clients with decision support through data insights
- Won the 2019 Rolls-Royce Data Innovation Challenge (Grand Prize SGD\$60,000) by building a machine learning algorithm for an API that was designed to help make the airline industry more efficient

Research Associate 📅 2016 - 2018

**Clinical Brain Lab - Nanyang Technological University, Singapore**

- Led a multimodal MR study (task- and rs- fMRI, DTI, behavioral) involving more than 100 healthy and ADHD participants
- Analyzed a resting-state fMRI dataset from Mild Cognitive Impairment patients using DARTEL processing and 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
- Was responsible for 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 coach lab members including PhD students and post-docs to use these online tools

## OTHER SELECTED AWARDS

🏆 Trustee's Prize for General Excellence 📅 2013

🏆 Harry L. Kreshpane Prize 📅 2012

## RESEARCH INTERESTS

🧠 **Cognitive Neuroscience**

Higher executive functions, such as theory of mind, intention, and decision-making, in healthy and clinical populations

🧪 **Research Methods**

Behavioral Experiments  
Structural, Diffusion, Sodium MRI  
Task-based & Resting-state fMRI

📊 **MR Data Processing**

Conventional Methods & Statistics  
Advanced Methods (e.g. ICA, MVPA)  
Machine Learning (e.g. Deep Learning)

## SKILLS

Project Management	Python	R	Matlab	Bash	
E-Prime	SPSS	JASP	FreeSurfer	SPM	FSL
Unix	HPC	Tensorflow	LaTeX	Web Development	

## SELECTED POSTERS

- **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.
- **Fung H.**, Gan S.R., Lee S.H., Ho R.C., & Chen S.H.A. (2018, June). An fMRI investigation of hot and cool executive functions in healthy adults. Poster Session at the Annual Meeting of OHBM, Singapore

## PUBLICATIONS

🔗 More Details

- 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