Gia Ngo

CONTACT
INFORMATION

School of Electrical and Computer Engineering
Cornell University
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https://github.com/ngohgia

RESEARCH
INTERESTS

Machine Learning, Neuroimaging, Neuroscience, Natural Language Processing, Computer Vision, Biomedical Image Analysis

EDUCATION

Cornell University, Ithaca, NY, USA   August, 2018 - present
Ph.D. candidate in Electrical and Computer Engineering, Minor in Artificial Intelligence
Dissertation topic: "Individualized prediction of neural phenotypes from resting-state fMRI"

National University of Singapore, Singapore   Aug 2011– Dec 2015
Bachelor of Engineering in Electrical Engineering (First Class Honors)
Minor in Technology Innovations & Entrepreneurship from Tel Aviv University, Israel

SELECTED
PUBLICATIONS

Gia H. Ngo, Meenakshi Khosla, Keith Jamison, Amy Kuceyeski & Mert R. Sabuncu. **From Connectomic to Task-Evoked Fingerprints: Individualized Prediction of Task Contrasts from Resting-State Functional Connectivity**. MICCAI, 2020. [paper & code]

Meenakshi Khosla, Gia H. Ngo, Keith Jamison, Amy Kuceyeski & Mert R. Sabuncu. **Neural encoding with visual attention**. Oral presentation to appear at NeurIPS, 2020. [paper]

Meenakshi Khosla, Gia H. Ngo, Keith Jamison, Amy Kuceyeski & Mert R. Sabuncu. **Cortical response to naturalistic stimuli is largely predictable with deep neural networks**. bioRxiv, 2020. [paper]

Gia H. Ngo, Simon B. Eickhoff, Minh Nguyen, Gunes Sevinc, Peter T. Fox, R. Nathan Spreng & BT Thomas Yeo. **Beyond consensus: Embracing heterogeneity in curated neuroimaging meta-analysis**. NeuroImage, 2019. [paper][code]

Minh Nguyen, Gia H. Ngo & Nancy F. Chen. **Hierarchical Character Embeddings: Learning Phonological and Semantic Representations in Languages of Logographic Origin Using Recursive Neural Networks**. IEEE/ACM Transactions on Audio, Speech, and Language Processing, 2019. [paper].

Gia H. Ngo, Nancy F. Chen, Minh Nguyen, Bin Ma & Haizhou Li. **Phonology-Augmented Statistical Framework for Machine Transliteration Using Limited Linguistic Resources**. IEEE/ACM Transactions on Audio, Speech, and Language Processing, 2019. [paper]

Jianxiao Wu, Gia H. Ngo, Douglas Greve, Jingwei Li, Tong He, Bruce Fischl, Simon B. Eickhoff & BT Thomas Yeo. **Accurate nonlinear mapping between MNI volumetric and FreeSurfer surface coordinate systems**. Human Brain Mapping, 2018. [paper]

Gia H. Ngo, Simon B. Eickhoff, Peter T. Fox & B.T. Thomas Yeo. **Collapsed variational bayesian inference of the author-topic model: application to large-scale coordinate-based meta-analysis**. PRNI, 2016. [paper]

Gia H. Ngo, Nancy F. Chen, Sunil Sivadas, Bin Ma & Haizhou Li. **A Minimal-Resource Transliteration Framework for Vietnamese**. Interspeech, 2014. [paper]

HONORS AND AWARDS	Jacobs Scholar Fellowship for PhD study	2018
	ASEAN Undergraduate Scholarship	2011 - 2015
	A*STAR Scholarship for secondary and junior college study	2007 - 2010

WORK EXPERIENCE **GIVE.asia**, Singapore [give.asia]   July, 2014 - August, 2018
Full-stack web developer

- Maintained an online crowd-funding platform for 1 million people ($> 15k$ active users/day) to fundraise and donate for social causes around Asia.

- Migrate from Ruby on Rails + JQuery + MongoDB to Scala + VueJS + PostgreSQL stack to handle increased traffic and surpass previous limit of 150 concurrent transactions.

National University of Singapore, Clinical Imaging Research Center, Singapore   2016 - 2017
Research assistant, mentored by Dr. Thomas Yeo

- Developed inference algorithms for unsupervised estimation of brain atlases from large neuroimaging datasets. [github]

Project Ray, Tel Aviv, Israel [project-ray.com]   January, 2014 - June, 2014
Android App engineering intern

- Developed a mobile application for the visually handicapped to localize their position and query about nearby places.

- Created a website to crowd-source landmarks' accessibility information on Google Maps. [code]

Institute for Infocomm Research, Singapore   May 2013 – Dec 2013
Research assistant, mentored by Dr. Nancy F. Chen   Sep 2014 – June 2015

- Developed transliteration algorithms augmented with phonology for low-resource languages.

PRESENTATIONS   From Connectomic to Task-evoked Fingerprints. MICCAI, 2020. [video]
Coordinate-Based Meta-analysis: From Consensus to Discovery Science. OHBM, 2017. [video]

OTHER RELEVANT PROJECTS   **Featherlight WYSIWYG Editor**: a minimal Typescript-based WYSIWYG editor that supports modern blogging-style formatting and simple, unnested JSON outputs. [code]

Neural Networks for Localizing Lung Opacities from Chest X-Ray Images: U-Net with transfer learning from ResNet34 on ImageNet for predicting bounding boxes of lung opacities from chest X-ray images. [code]

Machine Learning Methods for Seizure Detection from EEG Recording: several features and algorithms to detect seizures from intracranial EEG recordings. [code]

Photometric Stereo: Matlab implementation to estimate surface normals and depth map of an object based on pixel brightness of the object's images when subjected to a light source positioned at different angles. [code]

Infrared Camera for Android Device: interface for a low-resolution infrared camera with an Android device via an Arduino board to preview relative temperature of the surrounding. [code]

Computer Skills   Language: Python, Scala, Ruby, Matlab, HTML, Javascript, Typescript
Framework: Pytorch, Play, RoR, VueJS, Polymer
Database: PostgreSQL, MongoDB