Chuang, Yun-Shiuan (Sean)

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EDUCATION

University of Wisconsin – Madison   *09/2019-present*
- Ph.D. in Psychology & Additional M.S. in Computer Science (in application process); GPA: 4.0/4.0
- Selected Courses: Artificial Intelligence, Machine Learning, Deep Learning, Data Structures and Algorithms

University of Wisconsin – Madison   *09/2017-06/2018*
- *Visiting Student Researcher*; GPA: 4.0/4.0; Fully-funded by Study Abroad Scholarship for Future Scholars

National Taiwan University - Ranked 1st in Taiwan   *09/2013-06/2018*
- Bachelor of Science in Psychology*;* GPA: 4.2/4.3 (Rank: 2/63)
- Dean's Award of College of Science; Presidential Awards (7 out of 8 semesters)
- Selected Courses: Data Science, Statistical Analysis, Psychology Experiment Design, Multivariate Analysis

MACHINE LEARNING RELATED PUBLICATIONS

[1] **Chuang** et al. (2020) *Using Machine Teaching to Investigate Human Assumptions when Teaching Reinforcement Learners* ArXiv, abs/2009.02476.

[2] **Chuang** et al. (2020) *Using Machine Theory of Mind to Learn Agent Social Network Structures from Observed Interactive Behaviors with Targets.* **IEEE,** Robot and Human Interactive Communication

PROFESSIONAL EXPERIENCES

Data Science Consultant, Junyi Academy   *09/2020-present*
- Optimized the prediction algorithm of the online course platform with 16 million+ student's exercise logs. Using graph-based machine learning (**Node2vec**), prediction accuracy reached 95% for predicting student's responses.

Graduate Researcher, Computational Cognitive Science Lab, UW-Madison   *09/2019-present*
- Applied **deep reinforcement learning** (**DRL**) to solve a teaching problem which human teachers struggle with. Found that machine teacher is optimal at teaching different types of reinforcement learners, while human teachers are most capable of teaching "Q learner" with small discount factor *(Python)* [1]
- Built the online teaching game as a full-stack web developer for the RL project and collected 1030 players' data on MTurk *(JavaScript, SQL)*

Research Associate*,* Center for Artificial Intelligence and Advanced Robotics, NTU   *12/2018-08/2019*
- Developed a robotic social cognition module by training a **deep neural network** (**resnet & LSTM**) that infers people's social preferences with 80+% accuracy *(Python, TensorFlow, R)* [2]
- Designed the online social interaction game for the robotics study as a full-stack web developer *(JavaScript, SQL)*

Visiting Researcher*,* Waisman Center, UW-Madison   *08/2017-06/2018*
- Automated the end-to-end human fMRI data (time-series 3D brain images) processing and analysis pipeline for 250+ scans, which slashed 200+ hours of manual work of the lab *(Shell, MATLAB)*
- Decoded neural representations from BOLD signals with **multi-voxel pattern analysis** using **RSA** and **SVM.**

DATA SCIENCE PROJECT LEADERSHIP

Co-Founder, PyData Madison   *12/2019-present*
- Organized data science relevant events for the PyData community at Madison, WI

Project Leader at the NTU CS+X Hackathon   *09/2016-01/2017*
Awarded the 1st place for best overall quality among 30+ competing projects
- Identified the political "filter bubbles" that existed in the Facebook user community using k-means clustering *(R, Shiny)* on web-crawled *(JavaScript)* large-scale post-liking data (19 million+ observations & 342,796 users)

SKILLS & LANGUAGES

- Python (TensorFlow, PyTorch, Scikit-learn), R, MATLAB, SQL, Java, Shell, Git, JavaScript, HTML, CSS, LaTeX
- Advanced Statistics: GLMM, Multivariate, Bayesian, MCMC, Bootstrapping & Permutation, Time-Series
- **Author of the R package** *label4MRI* - a toolbox for labeling brain image (30 stars and 13 forks on GitHub)