

# Fengyi Tang

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## EXPERIENCES

### MACHINE LEARNING SCIENTIST II

Amplitude Analytics, San Francisco, CA

October 2021 - Present

- Developed a non-parametric test for distributional drift detection, deployed as a new anomaly detection feature.
- Developed an internal B2B churn model used to calculate various company KPIs.

### MACHINE LEARNING RESEARCH, ILLIDAN LAB

Michigan State University, East Lansing, MI

August 2017 - August 2021

- Developed a dialog system to identify language markers that can detect early-stage mild cognitive impairment.
- Thesis projects led to a \$3.9M NIH grant awarded to the lab that was featured in local news.

### RESEARCH COORDINATOR

Weill Cornell Medical College, New York, NY

May 2019 - August 2019

- Developed “adversarial precision sensing”, a technique that leverages 2 competing neural nets to do personalized feature selection on a budget-constraint with non-i.i.d. data; led to a first-authored publication in ICDM 2020.

### DATA SCIENCE SUMMER INTERN

MIT Laboratory of Computational Physiology, Cambridge, MA

May 2018 - August 2018

- Developed “retaining privileged information” that enables sample-efficient multitask learning for neural nets; led to a first-authored publication in KDD 2019.

## SELECTED PUBLICATIONS

- **Fengyi Tang**, Lifan Zeng, Fei Wang, and Jiayu Zhou (2020). “Adversarial Precision Sensing with Healthcare Applications”. 2020 IEEE International Conference on Data Mining (**ICDM’20**).
- **Fengyi Tang**, Ikechukwu Uchendu, Fei Wang, Hiroko Dodge, Jiayu Zhou (2020). “Scalable Diagnostic Screening of Mild Cognitive Impairment Using AI Dialogue Agent”. **Nature Scientific Reports**.
- **Fengyi Tang**, Betty HC Cheng (2020). “Protecting Temporal Signatures Using Synchronized Chaotic Circuits”. Hawaiian International Conference of System Sciences 2020 (**HICSS-53**).
- **Fengyi Tang**, Cao Xiao, Fei Wang, Jiayu Zhou, and Li-wei H. Lehman (2019). “Retaining Privileged Information for Multi-Task Learning”. In Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (**KDD ’19**).

## PRESENTATIONS AND INVITED TALKS

*Audio & Linguistic Markers for MCI Prediction* | Layton Aging & Alzheimer’s Disease Center

July 15, 2021

*Scalable Diagnostic Screening of MCI* | Frontiers of AI-Assisted Care

September 18, 2019

*Temporal Feature Selection* | American Physician Scientist Association

April 6, 2019

## SOFTWARE

*Convogym* | Github

September 16, 2021

A python library to train dialog agents using active and reinforcement learning.

*PersonaGPT* | Model Card

October 12, 2020

A dialog agent capable of delivering personalized conversations given various personality traits.

## SKILLS

- Machine Learning: reinforcement learning, NLP, unsupervised learning, graph ML
- Technical Environments: Python, Pytorch, Tensorflow, DGL, Flask, MySQL, HTML & CSS

## EDUCATION

### MICHIGAN STATE UNIVERSITY

Ph.D. in Computer Science | Advisor: Jiayu Zhou

Aug. 2017 - Sept. 2021

### UNIVERSITY OF CALIFORNIA SAN DIEGO

B.S. in Human Biology & M.S. in Biology

Sept. 2012 (B.S.), Sept. 2014 (M.S.)