Ini Oguntola

ini@alum.mit.edu | github.com/ini | ini.github.io

Education

Carnegie Mellon University   Pittsburgh, PA
Ph.D. in **Machine Learning** advised by Katia Sycara   2019 – 2025

Massachusetts Institute of Technology   Cambridge, MA
M.Eng. in **Electrical Engineering and Computer Science** concentrating in **Artificial Intelligence**   2015 – 2019
B.S. in **Computer Science and Engineering**
B.S. in **Mathematics**

Experience

CMU – Research Assistant   Pittsburgh, PA
With Katia Sycara   2019 – 2025
- Machine learning research focused on interpretable theory of mind in multi-agent reinforcement learning and imitation learning.

MIT CSAIL – Research Assistant   Cambridge, MA
With Amar Gupta   2019
- Worked on deep representation learning for time-series ICU data using Transformer models.

With Josh Tenenbaum's Lab   2018
- Worked on few-shot image classification and generation via compositional object understanding.

With Tomaso Poggio's Lab   2017 – 2018
- Worked with the Center for Brains Minds and Machines on the development of an experimental deep learning framework.

Microsoft Research – Research Intern   Redmond, WA
With Nebojsa Jojic   2018
- Worked on creating domain-specific conversational agents.

MIT Media Lab – Undergraduate Researcher   Cambridge, MA
With Deb Roy's Lab   2017 – 2018
- Designed a hybrid model integrating GloVe and WordNet to generate semantic word associations for an interactive language learning tool.

Google – Software Engineering Intern   San Bruno, CA
YouTube   2017
- Experimented with different models using Google's Knowledge Graph to build a system for clustering videos in YouTube Go.

Google – Engineering Practicum Intern   Mountain View, CA
iOS Development   2016
- Worked on the iOS development of an experimental social product.

Publications   * indicates equal contribution

- Renos Zabounidis, Ini Oguntola, Konghao Zhao, Joseph Campbell, Simon Stepputtis, Katia Sycara. **Benchmarking and Enhancing Disentanglement in Concept-Residual Models.** *TMLR 2026.*
- Ini Oguntola. **Theory of Mind in Multi-Agent Systems**. PhD Dissertation, 2025.
- Dana Hughes, Huao Li, Max Chis, Ini Oguntola, Simon Stepputtis, Keyang Zheng, Joseph Campbell, Katia Sycara, Michael Lewis. **A Framework for Intervention Based Team Support in Time Critical Tasks**. *SMC 2023.*
- Ini Oguntola, Joseph Campbell, Simon Stepputtis, Katia Sycara. **Theory of Mind as Intrinsic Motivation for Multi-Agent Reinforcement Learning**. *ICML 2023 Workshop on Theory of Mind.*
- Huao Li, Ini Oguntola, Dana Hughes, Michael Lewis, Katia Sycara. **Theory of Mind Modeling in Search and Rescue Teams.** *RO-MAN 2022.*
- Ini Oguntola, Dana Hughes, Katia Sycara. **Deep Interpretable Models of Theory of Mind**. *RO-MAN 2021.*
- Sneha Makini, Ini Oguntola, Deb Roy. **Spelling Their Pictures: The Role of Visual Scaffolds in an Authoring App For Young Children's Lieteracy and Creativity**. *IDC 2020.*
- Ini Oguntola. **Learning Deep Patient Representations for the TeleICU**. *Master's Thesis, 2019.*

- Ini Oguntola*, Subby Olubeko*, Christopher Sweeney*. **SlimNets: An Exploration of Deep Model Compression and Acceleration**. *IEEE HPEC 2018.*

Open-Source Projects github.com/ini

MultiGrid: Fast and flexible multi-agent gridworld reinforcement learning environments.
NumTy: A number theory library for Python.

Teaching

Teaching Assistant at CMU – Introduction to Machine Learning [Ph. D] (10-701) Fall 2022
Teaching Assistant at CMU – Introduction to Machine Learning (10-315) Spring 2021
Teaching Assistant at MIT – Math for Computer Science (6.042/18.062) Spring 2019
Teaching Assistant at MIT – Theory of Computation (6.840/18.404) Fall 2018

Skills and Interests

Skills: C++ • C# • Objective-C • Java • Python • Swift • MATLAB • SQL
Libraries: PyTorch • JAX • CUDA
Interests: Representation Learning • Interpretability • Reinforcement Learning • Natural Language Processing • Computer Vision • AI