OLAWALE SALAUDEEN

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EDUCATION

Stanford University *September 2022 - Present*
Visiting Ph.D. Student Researcher
Department of Computer Science
Advisor: Sanmi Koyejo

University of Illinois at Urbana-Champaign *August 2019 - Present*
Ph.D. Candidate
Department of Computer Science
Advisor: Sanmi Koyejo

Texas A&M University *August 2015 - May 2019*
Bachelor of Science with Honors, Mechanical Engineering
Minors in Computer Science and Mathematics

RESEARCH INTERESTS

Deep Learning, Transfer Learning (Domain Adaptation/Generalization), Causal Inference/Discovery, Causality-Inspired Machine Learning, Probabilistic Graphical Models

SELECTED FELLOWSHIPS, HONORS, AND AWARDS

Research Trainee, *NSF Miniature Brain Machinery at UIUC*	2021
GEM Associate Fellow, *University of Illinois at Urbana-Champaign*	2021
Beckman Institute Graduate Fellow, *University of Illinois at Urbana-Champaign*	2020
Sloan Scholar, *Alfred P. Sloan Foundation's Minority Ph.D. (MPHD) Program*	2019
Masters Fellowship Program (declined), *Sandia National Laboratories*	2019
Mechanical Engineering Advisory Council Scholarship, *Texas A&M University*	2018
Foundation Excellence Award, *Texas A&M University*	2017
Pi Tau Sigma – Sigma Delta, *National Mechanical Engineering Honors Society*	2016
Craig and Galen Brown Honors College of Engineering, *Texas A&M University*	2015
Regents Scholar Program, *Texas A&M University*	2015

PUBLICATIONS

5. **Olawale Salaudeen**, Oluwasanmi Koyejo. "Target Conditioned Representation Independence (TCRI); From Domain-Invariant to Domain-General Representations." *Under Review, 2023.*

4. Ibrahim Alabdulmohsin, Nicole Chiou, Alexander D'Amour, Arthur Gretton, Sanmi Koyejo, Matt J. Kusner, Stephen R. Pfohl, **Olawale Salaudeen**, Jessica Schrouff, Katherine Tsai. "Adapting to Latent Subgroup Shifts via Concepts and Proxies." The International Conference on Artificial Intelligence and Statistics (AISTATS), 2023.
Authors listed in alphabetical order.

3. Chirag Nagpal, **Olawale Salaudeen**, Sanmi Koyejo, Stephen Pfohl. "Addressing Observational Biases in Algorithmic Fairness Assessments." Conference on Neural Information Processing Systems (NeurIPS), 2022. Workshop on Algorithmic Fairness through the Lens of Causality and Privacy (AFCP) *(extended abstract).*

2. Brad Sutton, Aaron Anderson, Benjamin Zimmerman, Paul Camacho, Riwei Jin, Charles Marchini, **Olawale Salaudeen**, Natalie Ramsy, Davide Boido, Serge Charpak, Andrew Webb, Luisa Ciobanu. "Ultra-fast 3D fMRI to explore cardiac-induced fluctuations in BOLD-based functional imaging." International Society for Magnetic Resonance in Medicine (ISMRM), 2022. *(abstract).*

1. **Olawale Salaudeen**, Sanmi Koyejo. "Exploiting Causal Chains for Domain Generalization." Conference on Neural Information Processing Systems (NeurIPS), 2021. Workshop on Distribution Shifts – Connecting Methods and Applications (DistShift).

TALKS AND PRESENTATIONS

5. Separating Neural Encoding and Decoding Pathways in fMRI by Disentangling Causal and Anticausal Mechanisms
   University of Illinois at Urbana-Champaign Minitature Brain Machinery Retreat 2022

4. Denoising fMRI via probabilistic graphical model augmentation of ICA-AROMA
   University of Illinois at Urbana-Champaign Beckman Institute Graduate Student Seminar 2022
   University of Illinois at Urbana-Champaign Minitature Brain Machinery Retreat 2021

3. Exploiting Causal Chains for Domain Generalization
   Conference on Neural Information Processing Systems (NeurIPS), 2021. Workshop on Distribution Shifts – Connecting Methods and Applications (DistShift). 2021

2. Automated Incorporation of Machine Learning (AIM)
   Sandia National Laboratories MARTIANS End of Summer Symposia 2020

1. Interpretable Recurrent Convolutional Neural Networks for Cyber Alert Triaging
   Sandia National Laboratories MARTIANS End of Summer Symposia 2019

PROFESSIONAL EXPERIENCE

Google Research May 2022 - December 2022
Student Researcher - Cambridge, MA

Worked on a team to develop a domain adaptation algorithm under latent confounder distribution shift; developed semi-synthetic data for evaluation and implemented state-of-the-art domain adaptation algorithms

Sandia National Laboratories May 2017 - April 2022
Year-Round R&D Intern - Albuquerque, NM

Developed multimodel deep learning algorithms for threat detection in various contexts including X-ray images, network traffic, and enclosed physical systems

RESEARCH EXPERIENCE

University of Illinois at Urbana-Champaign September 2021 - Present
Miniature Brain Machinery NSF Trainee with Prof. Sanmi Koyejo and Prof. Brad Sutton – Champaign, Illinois

Established causal machine learning algorithms to detect and remove nuisance artifacts, such as the effects of motion , from fMRI scans

University of Illinois at Urbana-Champaign August 2020 - July 2021
Beckman Institute Graduate Research Fellow with Prof. Sanmi Koyejo, Prof. Brad Sutton, and Prof. Aron Barbey – Champaign, Illinois

Developed a causal structure learning framework to isolate and remove motion artifacts in functional Magnetic Resonance Images (fMRI)

University of Illinois at Urbana-Champaign August 2019 - July 2020
Graduate Research Assistant with Prof. Sanmi Koyejo and Prof. Aron Barbey – Champaign, Illinois

Teamed to create a learning framework for estimating multi-modal individual treatment effects, correlated changes, and counterfactuals in the context of human performance optimization

Texas A&M University Multi-Robot Laboratory October 2018 - May 2019
Undergraduate Researcher with Prof. Dylan Shell – College Station, TX

Created and analyzed a novel geometry-based motion planning algorithm for tethered robots

Texas A&M University Energy Systems Laboratory August 2016 - October 2018
Undergraduate Researcher with Prof. Charles Culp – College Station, TX

Developed probabilistic algorithms for fault detection and diagnosis in industrial Heating Ventilation and Air Condition systems

SERVICE

Reviewing

Neural Information Processing Systems (NeurIPS)	2022
NeurIPS Algorithmic Fairness through the Lens of Causality and Privacy (AFCP) Workshop	2022
International Conference on Machine Learning (ICML) – *Top 10% reviewer award*	2022
NeurIPS Black In AI (BAI) Workshop	2021

University of Illinois at Urbana-Champaign

Directed Reading Program, Mentor	2022-Present
Graduate Study Committee, 1 of 2 Graduate Student Members	2022
Broadening Participation in Computing, Engagement Subcommittee Member	2021 - 2022
Graduates Engineers Diversifying Illinois, Mentor	2020 - 2022
Institute for Inclusion, Diversity, Equity, and Access (IDEA), Affiliate Member	2020 - Present

TEACHING

Foundations of Engineering, Peer Teacher – Texas A&M University	2018-2019
Introduction to Microcontrollers, Co-Instructor – Sandia National Labs HMTech	2018, 2019

MENTORSHIP AND ADVISING

Distributed Research Experiences for Undergraduates (DREU)	2021