# OLAWALE SALAUDEEN

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## EDUCATION

**University of Illinois, Urbana-Champaign**     *August 2019 - Present*
Ph.D. Student
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

Causality, Machine Learning, Meta/Transfer Learning

## RESEARCH EXPERIENCE

**University of Illinois, Urbana-Champaign**     August 2020 - Present
*Beckman Institute Graduate Research Fellow - Champaign, Illinois*

- Developing a causal structure learning framework for effective connectivity in the brain using functional Magnetic Resonance Images (fMRI)

**University of Illinois, Urbana-Champaign**     August 2019 - Present
*Graduate Research Assistant - Champaign, Illinois*

- Developed 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-Robotic Laboratory**     October 2018 - May 2019
*Undergraduate Researcher - College Station, TX*

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

## PROFESSIONAL EXPERIENCE

**Sandia National Laboratories**     May 2017 - Present
*Year-Round R&D Intern - Albuquerque, NM*

- **2020.** Working on a team to develop models to classify organic materials in X-ray images

- **2020.** Designed and executed experiments to investigate the effectiveness of Reinforcement Learning in sequence to sequence generation - Deep Q Network in the context of automated code generation

- **2019.** Implemented a rationale generating Recurrent Convolutional Neural Network model for triage classification of triggered network security alerts

- **2019.** Prototyped a Convolutional Neural Network framework for semantic segmentation of X-Ray images of Improvised Explosive Devices and generation of a graphical model of designs of the devices

- **2018.** Developed and implemented a multi-modal deep Recurrent Neural Network framework for classifying safety rules for maintenance tasks from mixed numerical and textual tasks descriptions

- **2018.** Extended a 2D Simultaneous Localization and Mapping (SLAM) algorithm for ground systems to 3D for air systems equipped with 3D-LIDAR, IMU/GPS

- **2017.** Designed and prototyped an intrusion detection and localization system using fiber-optic disturbances

- **2017.** Researched and presented applications of big data analysis to learn physical properties of a configuration space based on electromagnetic disturbances in transmitted wireless signals

## SERVICE

- **2020-.** UIUC Graduates Engineers Diversifying Illinois, mentor upperclassmen undergraduate students in goal setting, career planning, and academic development

- **2020-.** UIUC Institute for Inclusion, Diversity, Equity, and Access (IDEA), Affiliate Member

- **2017-.** HMTech, mentored underrepresented High School students interested in STEM

- **2015-2019.** Regents Scholar Program, mentored first generation college students in Engineering

## HONORS AND AWARDS

- **2021-.** GEM Associate Fellow

- **2020-2021** Beckman Institute Graduate Fellow at the University of Illinois at Urbana-Champaign

- **2019-.** Sloan Scholar, Alfred P. Sloan Foundation's Minority Ph.D. (MPHD) Program

- **2017.** Texas A&M University Foundation Excellence Award

- **2018.** Texas A&M University Mechanical Engineering Advisory Council Scholarship

- **2016-.** Pi Tau Sigma, Sigma Delta

- **2015-2019.** Craig and Galen Brown Honors College of Engineering

- **2015-.** Regents Scholar Program, Texas A&M University