Matthew I. Swindall | Graduate Assistant

Location: **Nashville, TN**

Telephone: **615-569-3904**

Email: mis2n@mtmail.mtsu.edu

Website: https://www.cs.mtsu.edu/~mis2n/

Github: https://github.com/mis2n

Professional Profile

Accomplished graduate student in the Computational Science PhD program at Middle Tennessee State University. My studies include advanced mathematical methods, physical sciences, and computational science. My Research is focused on crowdsourced image datasets for deep learning applications utilizing convolution-based network architectures and residual networks. My work includes the creation of a dataset containing nearly 400,000 Greek characters from ancient manuscript images utilizing crowdsourced annotations.

Core Skills

- Deep Learning
- Tensorflow & Keras
- Computer Vision
- Parallel Processing
- Statistics
- Chemistry
- Circuitry

- Machine Learning
- Python, C/C++, R
- Cloud Computing (GCP, AWS)
- Advanced Calculus
- Physics
- Micro-Controllers
- Robotics

- Neural Networks
- Unix/Linux, Bash
- Cluster Computing
- Linear Algebra
- Astronomy
- Micro-Computers
- STEM Education

Education

➢ PhD in Computational & Data Science	Middle Tennessee State University	*2024**
➢ Master of Science in Computer Science	Middle Tennessee State University	*2024**
➢ Bachelor of Science in Physics	Middle Tennessee State University	2016
➢ Associate of Science in Physics	Columbia State Community College	2016

Publications

o Matthew I. Swindall, Gregory Croisdale, Chase C. Hunter, Ben Keener, Alex C. Williams, James H. Brusuelas, Nita Krevans, Melissa Sellew, Lucy Fortson, and John F. Wallin. Exploring learning approaches for ancient Greek character recognition with citizen science data. In 2021 17th International Conference on eScience (eScience), pages 128– 137. IEEE, 2021.

Conference Talks

- IEEE eScience 2021 - Innsbruck, Austria (virtual) - "Exploring Learning Approaches for Ancient Greek Character Recognition with Citizen Science Data"
- MSTU Scholars Day 2022 – Murfreesboro, TN – "Dataset Augmentation in Papyrology with Generative Models: A Study of Synthetic Ancient Greek Character Images"

Internships & Honors

- ❖ MTeach Summer Internship 2016 – STEM teaching internship in partnership with the Discovery Center at Murfree Spring.
- ❖ La Serena School for Data Science Class of 2021 - NFS and CMM/UChile funded Data Science for Astronomy Program in partnership with NOIRLab/AURA-O.

Career Summary

2019 – Present   **Middle Tennessee State University**   **Graduate Assistant**

Design and prototyping of STEM demonstrations in cooperation with the MTSU Makerspace. Project components include micro-controllers/computers, electrical circuits, robotics, coding, computer vision, object recognition, 3D printing, laser etching/cutting, and augmented/virtual reality.

Key Responsibilities

- Design & Prototype STEM demonstrations
- Equipment, inventory, and network maintenance
- Equipment training and technology coaching
- Guide students in project-based learning
- Curation of exhibits

Key Achievements

- Designed & curated numerous STEM exhibits including a Lego block sorting robot, a Bluetooth enabled LED text sign with Android app, and a real-time object detection/segmentation exhibit.

2015 – 2016   **Middle Tennessee State University**   **Physics & Astronomy Tutor**

Tutored students in departmental courses.

Key Responsibilities

- Tutored Physics Students
- Tutored Astronomy Students
- Assisted other departments when necessary

Key Achievements

- Tutored numerous students in my expertise areas, as well as advanced mathematics, chemistry, and engineering.

2006 – 2013   **First Tennessee Bank**   **Teller III**

Award winning bank teller and trainer with extensive branch operations experience.

Key Responsibilities

- AML/BSA Compliance
- Staff training
- Foreign Exchange
- Vault & ATM control and maintenance
- Account Management

- Branch auditing

Key Achievements

- Numerous awards including the FTB Presidents Award
- Managed Operations of a single-person satellite branch in addition to main-branch duties.

References upon request