# Matthew I. Swindall | Graduate Assistant

Location: **Nashville, TN**

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## 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

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|---|---|---|
| ➢ PhD in Computational 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


- 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"

## 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