Andrew Sanders

✉ andrew101sanders@gmail.com   in Andrew Sanders   🌐 Personal Website

Employment History

May 2022 – ····
Graduate Research Assistant. Augusta University, Augusta, GA.
- Researched software vulnerabilities and detection methods.
- Developed secure coding education approaches.
- Investigated student-introduced software vulnerabilities.

May 2022 – August 2022
Instructor. Augusta University, Augusta, GA.
- Prepared teaching materials for AIST-2120 Principles of Scripting and Automation.
- Taught Python concepts to beginner programmers.

August 2021 – May 2022
Graduate Teaching Assistant. Georgia Southern University, Statesboro, GA.
- Tutored undergraduate students in CS1/CS2 and Game Programming.
- Developed programming assignments for Java courses.
- Created test cases for Gradescope to automate grading.
- Assisted in lectures and taught Programming Principles II.

August 2020 – August 2021
Graduate Research Assistant. Georgia Southern University, Statesboro, GA.
- Researched eye tracking, face image, and attention-based studies.
- Designed and implemented a Convolutional Neural Network for tracking attention.
- Led development of a multi-modal data collection system using machine learning, eye tracking, and webcams.

Education

August 2022 – ····
Ph.D. in Computer and Cyber Sciences, Augusta University, Augusta, GA.
Research: Secure Coding Education
Advisor: Dr. Gursimran Singh Walia
GPA: 4.00 (Institution; 3.94 with Transfer Credit)

May 2022
M.S. in Computer Science, Georgia Southern University, Statesboro, GA.
Thesis title: *Developing and Validating a Machine Learning-Based Student Attentiveness Tracking System*
Advisor: Dr. Gursimran Singh Walia (co-advised with Dr. Andrew Allen)
GPA: 3.88

May 2020
B.S. in Computer Science, Georgia Southern University, Statesboro, GA.
GPA: 3.38 (Major: 3.76)

Research Publications

Journal Articles

1   **A. Sanders**, G. S. Walia, and A. Allen, "Assessing common software vulnerabilities in undergraduate computer science assignments," *Journal of The Colloquium for Information Systems Security Education*, 2024. 🔗URL: `https://cisse.info/journal/index.php/cisse/article/view/179`.

Conference Proceedings

1   B. Boswell, **A. Sanders**, G. S. Walia, and A. Allen, "Utilizing convolutional neural networks and eye-tracking data for classroom attention tracking," in *Hawaii International Conference on System Sciences*, 2024, ISBN: 978-0-9981331-7-1. 🔗URL: `https://hdl.handle.net/10125/107021`.

2   **A. Sanders**, G. S. Walia, and A. Allen, "Analysis of software vulnerabilities introduced in programming submissions across curriculum at two higher education institutions," in *2024 IEEE Frontiers in Education Conference (FIE)*, 2024.

3   **A. Sanders**, G. S. Walia, and A. Allen, "Assessing common software vulnerabilities in undergraduate computer science assignments," 2023. 🔗URL: `https://cisse.info/pdf/2023/presentations/download.php?file=GSOJP.pdf`.

4   B. Boswell, **A. Sanders**, A. Allen, G. Singh Walia, and M. Shakil Hossain, "Using ai-based nicats system to evaluate student comprehension in introductory computer programming courses," in *2022 IEEE Frontiers in Education Conference (FIE)*, 2022, pp. 1–9. 🔗DOI: `10.1109/FIE56618.2022.9962681`.

5   **A. Sanders**, B. Boswell, A. Allen, G. Singh Walia, and M. Shakil Hossain, "Development and field-testing of a non-intrusive classroom attention tracking system (nicats) for tracking student attention in cs classrooms," in *2022 IEEE Frontiers in Education Conference (FIE)*, 2022, pp. 1–9. 🔗DOI: `10.1109/FIE56618.2022.9962447`.

6   **A. Sanders**, B. Boswell, G. S. Walia, and A. Allen, "Non-intrusive classroom attention tracking system (nicats)," in *2021 IEEE Frontiers in Education Conference (FIE)*, 2021, pp. 1–9. 🔗DOI: `10.1109/FIE49875.2021.9637411`.

Skills

Programming Languages	Git, Java, C, C++, Python, C#, SQL, PostgreSQL, MSSQL, MySQL, JavaScript/NodeJS, Bash, HTML, CSS, x86/x86-64 Assembly.
Applications	Visual Studio, Visual Studio Code, Eclipse, PyCharm, Ghidra, Jupyter Notebook, GitHub, Overleaf/LaTeX.
Machine Learning	TensorFlow, Keras, PyTorch, Numpy, Pandas, Matplotlib, Scikit-learn.
Platforms	Windows, Linux.
Miscellaneous	Excellent communication, teamwork, problem-solving, and time management skills.

Miscellaneous Experience

Awards and Achievements

2024   **Recipient,** DoD Cyber Service Academy Scholarship.
Awarded prestigious scholarship supporting students pursuing careers in cybersecurity and information assurance.

Miscellaneous Experience (continued)

🚩 **Third Place,** Innovate 2024, Augusta University.
Presented an attention-tracker tool designed to assist students with learning disabilities.

🚩 **Speaker,** Big Tide Changemakers Summit 2024.
Delivered a talk on pursuing computer science as a career to high school students.

References

Dr. Gursimran Singh Walia
Associate Dean and Professor of Computer Science
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Dr. Jim Harris
Former Professor of Computer Science (Retired)
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