

Andrew Sanders

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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](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](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)*, Under Review, 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=GS0JP.pdf](https://cisse.info/pdf/2023/presentations/download.php?file=GS0JP.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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1109/FIE49875.2021.9637411).

Conference Proceedings (Under Review)



- 1 **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)*, Under Review, 2024.

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/L ^A T _E X.
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  **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

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Dr. Jim Harris

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