

# Andrew Sanders

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in Andrew Sanders

🌐 Personal Website



## Employment History

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- 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


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- 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

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### 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 **A. Sanders**, G. S. Walia, L. Cordova, and T. Mendoza, "Pedagogical: Feedback tool to reduce software vulnerabilities in non-security computer science courses," in *2025 IEEE Frontiers in Education Conference (FIE)*, (Accepted), 2025.
- 2 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>.
- 3 **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, pp. 1–9.  DOI: 10.1109/FIE61694.2024.10893015.
- 4 **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>.
- 5 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.
- 6 **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.
- 7 **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

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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 <sup>A</sup> T <sub>E</sub> 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

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### Awards and Achievements

- 2025     **Speaker**, Big Tide Changemakers Summit 2025.  
Delivered an Artificial Intelligence and Cybersecurity Workshop to high school students.
- 2024     **Recipient**, DoD Cyber Service Academy Scholarship.  
Awarded prestigious scholarship supporting students pursuing careers in cybersecurity and information assurance.
-  **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

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### Dr. Gursimran Singh Walia

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### Dr. Jim Harris

Former Professor of Computer Science (Retired)  
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### Dr. Andrew Allen

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### Dr. Pradipta De

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