

## Andrew Sanders

✉ andrew101sanders@gmail.com

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*, vol. 11, no. 1, p. 8, Feb. 27, 2024, ISSN: 2641-4554, 2641-4546.  DOI: 10.53735/cisse.v11i1.179.

### Conference Proceedings

- 1 L. P. Cordova, T. Mendoza, B. Webster, A. L. Sanders, and G. Walia, "Expanding Pedagogical AI Scaffolding to IT and Cybersecurity Education: A Call for Multi-Institutional Validation," in *Proceedings of the 26th ACM Annual Conference on Cybersecurity & Information Technology Education*, ser. SIGCITE '25, New York, NY, USA: Association for Computing Machinery, Dec. 27, 2025, pp. 305–306, ISBN: 979-8-4007-2240-0.  DOI: 10.1145/3769694.3771154.
- 2 **A. Sanders**, G. S. Walia, L. Cordova, and T. Mendoza, "Pedagogical: Feedback Tool to Reduce Software Vulnerabilities in Non-Security Computer Science Courses," presented at the 2025 IEEE Frontiers in Education Conference (FIE), IEEE Computer Society, Nov. 1, 2025, pp. 1–8, ISBN: 979-8-3315-0105-1.  DOI: 10.1109/FIE63693.2025.11328325.
- 3 A. L. Sanders, G. Walia, and L. P. Cordova, "Cognitive-Aware Plugin for Vulnerability Feedback," in *Proceedings of the 26th ACM Annual Conference on Cybersecurity & Information Technology Education*, ser. SIGCITE '25, New York, NY, USA: Association for Computing Machinery, Dec. 27, 2025, pp. 307–309, ISBN: 979-8-4007-2240-0.  DOI: 10.1145/3769694.3771158.
- 4 B. Boswell, **A. Sanders**, G. Walia, and A. Allen, "Utilizing Convolutional Neural Networks and Eye-Tracking Data for Classroom Attention Tracking," in *Proceedings of the 57th Hawaii International Conference on System Sciences (HICSS-57)*, Jan. 3, 2024, ISBN: 978-0-9981331-7-1. HDL: 10125/107021.  URL: <https://hdl.handle.net/10125/107021>.
- 5 **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)*, Oct. 2024, pp. 1–9.  DOI: 10.1109/FIE61694.2024.10893015.
- 6 **A. Sanders**, G. S. Walia, and A. Allen, "Assessing Common Software Vulnerabilities in Undergraduate Computer Science Assignments (Presentation)," presented at the 27th Conference of The Colloquium for Information Systems Security Education, 2023.  URL: <https://cisse.info/pdf/2023/presentations/download.php?file=GS0JP.pdf>.
- 7 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)*, Oct. 2022, pp. 1–9.  DOI: 10.1109/FIE56618.2022.9962681.
- 8 **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)*, Oct. 2022, pp. 1–9.  DOI: 10.1109/FIE56618.2022.9962447.
- 9 **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)*, Oct. 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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Augusta University,  
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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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