

# ANNE TUMLIN

(she/her/hers)

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## EDUCATION

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**Vanderbilt University, Nashville, TN**

Russell G. Hamilton Scholar

Ph.D. Student in Computer Science

*Expected May 2027*

**University of South Carolina, Columbia, SC**

Magna Cum Laude

South Carolina Honors College - McNair Scholar

Bachelor of Science in Computer Science, Minor in Business Administration

*August 2019 - May 2023*

*GPA: 3.918*

## RESEARCH & TEACHING EXPERIENCE

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**Vanderbilt University Graduate Research Assistant**

*VeriVital and NDS Research Labs*

*August 2023 - Present*

- Researching formal methods for verification of neural networks.

**University of South Carolina Undergraduate Research**

*Information Routing with Ocean Sensor Nodes*

*January 2021 - May 2023*

- Researched an algorithm for information routing using ocean sensor nodes in the South Carolina Autonomous Robotics Research (SCARR) lab.
- Funded by the Magellan research grant.
- Presented at Discover UofSC 2023.

**Undergraduate Teaching Assistant**

*CSCE 215: Linux & Unix*

*Fall 2021*

- Assisted undergraduate students in learning Linux and Unix at the University of South Carolina.
- Designed labs for students to complete as a part of the CSCE 215 course.

**New York Institute of Technology Undergraduate Research**

*Toxic Comment Detection: Analyzing the Combination of Text and Emojis*

*Summer 2021*

- Worked on an open-source Natural Language Processing algorithm that detects the toxicity of comments based on the text and emojis within the comment.
- Implemented a BiLSTM Model utilizing GloVe and Emoji2Vec embeddings to detect toxicity.
- Led my team as project manager.
- Presented at the 2021 REU Research in Networking and Systems Conference.
- Published in the 2021 IEEE 18th International Conference on Mobile Ad Hoc and Smart Systems (MASS).

**University of South Carolina Undergraduate Research**

*Multi-Robot Visibility-Based Pursuit-Evasion Problem*

*January 2020 - December 2020*

- Researched an algorithm for multi-robot visibility-based pursuit-evasion in the South Carolina Autonomous Robotics Research (SCARR) lab.
- Performed program optimization by shortening the pursuant robot's path by up to 75 percent.
- Published in the 2021 IEEE International Conference on Robotics and Automation (ICRA)

## PUBLICATIONS

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1. Aquino, M., Ortiz, Y., Rashid, A., Tumlin, A. M., Artan, N. S., Dong, Z., Gu, H. (2021). Toxic Comment Detection: Analyzing the Combination of Text and Emojis. 2021 IEEE 18th International Conference on Mobile Ad Hoc and Smart Systems (MASS).
2. Olsen, T., Tumlin, A. M., Stiffler, N. M., O’Kane, J. M. (2021). A Visibility Roadmap Sampling Approach for a Multi-Robot Visibility-Based Pursuit-Evasion Problem. 2021 IEEE International Conference on Robotics and Automation (ICRA).

## LEADERSHIP AND TEAMWORK

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**Computer Science Graduate Student Association** (Vice President) *August 2023 - Present*  
Co-founder and Vice President of the Computer Science Graduate Student Association at Vanderbilt University, actively shaping the future of the organization since its inception in 2023. Distinguished service on the Executive Board, driving impactful initiatives and fostering a vibrant academic community for computer science graduate students

**UofSC Senior Capstone Project** (Project Manager) *August 2022 - May 2023*  
As the lead of our capstone team, I spearheaded the development of Cocky Calendar, a web application conceived for our senior capstone project. Our mission centered on delivering a comprehensive solution for University of South Carolina students to discover and monitor local events. My role entailed orchestrating the database system’s creation and crafting a web-scraping algorithm to aggregate event information.

**UofSC Chapter of Women in Computing** (President) *August 2020 - December 2021*  
As President of the Women in Computing organization at the University of South Carolina, I took immense pride in championing the advancement of women in the tech industry, actively promoting growth, and fostering opportunities. Throughout my tenure, I skillfully orchestrated and presided over club meetings, organized diverse activities, led community outreach efforts, and fostered increased involvement within the campus community

## AWARDS

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**Provost Graduate Scholarship** *2023*  
Vanderbilt University awards the Provost Graduate scholarship to highly qualified students pursuing a Ph.D. as part of the Graduate Education and Research Endowment initiative. The Provost’s Graduate Fellowship carries the status of Russell G. Hamilton Scholar.

**Benjamin A. Gilman International Scholarship** *2022*  
The Benjamin A. Gilman International Scholarship, offered by the U.S. Department of State, provides financial assistance to disadvantaged students for studying or interning abroad, allowing them to gain skills essential to our national security and economic competitiveness.

**NYIT Research Experience for Undergraduates** *2021*  
A summer research opportunity sponsored by the National Science Foundation to conduct paid research in mobile device and wireless network security.

**Magellan Scholar Research Grant** *2021*  
A competitive research grant at the University of South Carolina funded my undergraduate research on Information Routing with Ocean Sensor Nodes.

**UofSC Research Experience for Undergraduates** *2020*  
A summer research opportunity sponsored by the National Science Foundation to conduct paid research in applied computational robotics.

**McNair Scholarship** *2019*  
Highest out-of-state scholarship, including full tuition and enrichment fund, for undergraduates in the University of South Carolina’s Honors College.