

# Neea Rusch

## Curriculum vitae

Augusta University  
1120 15th Street, Augusta GA 30912, USA  
✉ nrusch@augusta.edu  
🔗 nkrusch.github.io

### Education

- 8/2020–present PhD student in Computer Science, *Augusta University*, Augusta, GA USA.
- 8/2014–5/2016 Master of Science in Computer Science, *Georgia Institute of Technology*, Atlanta, GA USA.
- 8/2011–5/2014 Bachelor of Science in Computer Science, *Augusta University*, Augusta, GA USA.

### Teaching Experience

- 2019–2021 CSCI 1301 - Principles of Computer Programming I, *Instructor*, Augusta University.  
Total enrollment 228, 6 semesters: fall 2019 ◦ spring and fall 2020 ◦ spring, summer and fall 2021.
- 2019 CSCI 1200 - Introduction to Computers and Programming, *Instructor*, Augusta University.  
Total enrollment 24, 2 semesters: spring and summer 2019.

### Publications

- 2023 Clément Aubert, Thomas Rubiano, Neea Rusch, and Thomas Seiller. “Distributing and Parallelizing Non-canonical Loops”. In: *Verification, Model Checking, and Abstract Interpretation*. Springer Nature Switzerland, 2023, pp. 1–24. DOI: 10.1007/978-3-031-24950-1\_1.
- 2023 Clément Aubert, Thomas Rubiano, Neea Rusch, and Thomas Seiller. “pymwp: A Static Analyzer Determining Polynomial Growth Bounds”. In: *Automated Technology for Verification and Analysis*. Springer International Publishing, 2023, pp. 263–275. DOI: 10.1007/978-3-031-45332-8\_14.
- 2022 Clément Aubert, Thomas Rubiano, Neea Rusch, and Thomas Seiller. “mwp-Analysis Improvement and Implementation: Realizing Implicit Computational Complexity”. In: *7th International Conference on Formal Structures for Computation and Deduction (FSCD 2022)*. Vol. 228. LIPIcs. Schloss Dagstuhl–Leibniz-Zentrum für Informatik, 2022, 26:1–26:23. DOI: 10.4230/LIPIcs.FSCD.2022.26.
- 2022 Neea Rusch. “Formally Verified Resource Bounds Through Implicit Computational Complexity”. In: *Companion Proceedings of the 2022 ACM SIGPLAN International Conference on Systems, Programming, Languages, and Applications: Software for Humanity*. SPLASH Companion 2022. ACM, 2022, pp. 17–20. DOI: 10.1145/3563768.3565545.

### Software

- 2023 Clément Aubert, Thomas Rubiano, Neea Rusch, and Thomas Seiller. *pymwp: MWP analysis in Python*. Version 0.4.2. May 2023. DOI: 10.5281/zenodo.7908484.
- 2022 Clément Aubert, Thomas Rubiano, Neea Rusch, and Thomas Seiller. *Distributing and Parallelizing Non-canonical Loops – Artifact*. Version 1.0. Sept. 2022. DOI: 10.5281/zenodo.7080145.

### Talks & Presentations

- 2023-10-25 🇸🇬 The 21st International Symposium on Automated Technology for Verification and Analysis (ATVA’23), *Singapore Management University, Singapore*.
- 2023-10-20 🇭🇰 The 19th EAI International Conference on Security and Privacy in Communication Networks (SecureComm ’23), *Hong Kong Polytechnic University, Hong Kong SAR*.
- 2023-03-10 🌐 SCOT Webinar: A Seminar on Semantic and Formal Approaches to Complexity, *online*.
- 2023-01-21 🇺🇸 The Ninth International Workshop on Coq for Programming Languages (CoqPL’23), *Boston MA, USA*.
- 2023-01-16 🇺🇸 The 24th International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI’23), *Boston MA, USA*.

- 2022-12-06 🇺🇸 The 2022 ACM SIGPLAN International Conference on Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH'22) Doctoral Symposium, *University of Auckland, New Zealand*.
- 2022-06-20 🇫🇷 The 28th International Conference on Types for Proofs and Programs (TYPES'22), *University of Nantes, France*.
- 2022-04-01 🇺🇸 The 37th Annual Graduate Research Day, poster, *Augusta University, USA*.
- 2021-11-18 🇫🇷 Laboratoire d'Informatique de Paris Nord (LIPN) seminar, *Université Sorbonne Paris Nord, France*.
- 2021-11-15 🇫🇷 Inria Celtique research team seminar, *IRISA Rennes, France*.
- 2021-03-26 🌐 The 36th Annual Graduate Research Day, *online, Augusta University, USA*.

---

## Academic Service

PC Member **Artifact Evaluation Committee (AEC).**

- APLAS – Asian Symposium on Programming Languages and Systems – 2022.
- CAV – Computer Aided Verification – 2024.
- COORDINATION – International Conference on Coordination Models and Languages – 2023.
- ECOOP – European Conference on Object-Oriented Programming – 2023, 2024.
- ICFP – International Conference on Functional Programming – 2022, 2023.
- ICSE – International Conference on Software Engineering – 2024.
- OOPSLA – Object-oriented Programming, Systems, Languages, and Applications – 2024.
- PLDI – Programming Language Design and Implementation – 2022, 2023.
- POPL – Principles of Programming Languages – 2024.
- PPoPP – Principles and Practice of Parallel Programming – 2023.
- SOSP – Symposium on Operating Systems Principles – 2023.

**Extended Review Committee.**

- ECOOP Research Papers – 2023, 2024.

Reviewer **Journals.**

- JOSS – The Journal of Open Source Software – 2023.

Organizer **Organizing Committee.**

- SERPL – The Southeast Regional Programming Languages Seminar – 2023.

Volunteer In-person student volunteer at CAV'23 and POPL'23 and SPLASH'22.

---

## University Service

- 9/2023–present Representative in the Graduate Student Government Association (GSGA), *Augusta University*.
- 9/2023–present GSGA Funding & Conferences Database Ad Hoc Committee, *Augusta University*.
- 1/2023–present Vice President and founding member of ΔΔΔ student organization, *Augusta University*.
- 8/2021–present Member of The Graduate School's Graduate Student Council, *Augusta University*.

---

## Seminars & Schools

- 2023 🇩🇪 International Autumn School on "Proof and Computation", Herrsching, Germany, September 10–16, 2023.
- 2023 🇫🇷 Verification Mentoring Workshop (VMW) at CAV 2023 conference, Paris, France, July 18, 2023.
- 2023 🇺🇸 Twelfth Summer School on Formal Techniques (SSFT23) & the First Formal Methods in the Field Bootcamp, *on principles and practice of formal techniques*, Atherton CA, USA, May 24–June 2, 2023.
- 2022 🇺🇸 Programming Languages Mentoring Workshop, PLMW @ PLDI 2022, San Diego CA, USA, June 13–14, 2022.
- 2021 🇩🇪 Static Analyses of Program Flows: Types and Certificate for Complexity, Dagstuhl Seminar 21453, Schloss Dagstuhl, Germany, November 7–12, 2021.
- 2021 🌐 Oregon Programming Languages Summer School (OPLSS 2021), *on foundations of programming and security*, online, June 14–26, 2021.
- 2021 🌐 Midlands Graduate School, *in the foundations of computing science*, online, April 12–16, 2021.

---

## Industry Experience

- 2020–2021 Senior Consultant, *Rural Sourcing Inc.*, Augusta, GA, front-end web application development.
- 2018–2019 Android Developer, *TaxSlayer*, Augusta, GA, mobile application design and development.
- 2014–2018 Software Developer, *TaxSlayer*, Augusta, GA, full stack web application design and development.

---

## Scholarships, Fellowships & Awards

- 1/2024 \$3,000 Ralph W. Shrader Graduate Diversity Scholarship (Fall 2023), *by AFCEA Educational Foundation and sponsored by Booz Allen Hamilton*, support for educational expenses.
- 8/2023 \$1,000 Travel Award, *by The Graduate School at Augusta University*, to attend the 21st International Symposium on Automated Technology for Verification and Analysis (ATVA'23) conference in Singapore.
- 5/2023 \$3,600 Verification Mentoring Workshop Scholarship, *by VMW organizers*, to attend Verification Mentoring Workshop (VMW) and Computer Aided Verification (CAV'23) conference in Paris, France.
- 1/2023 \$1,000 Student Research Program Award, *by Augusta University Provost's Office and the Translational Research Program of the Department of Medicine at Medical College of Georgia*, for dissertation research.
- 10/2022 \$1,000 Travel Award, *by The Graduate School at Augusta University*, to attend the 50th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL'23) conference in Boston MA, USA.
- 5/2022 Programming Languages Mentoring Workshop (PLMW) Scholarship, *by ACM SIGPLAN*, to attend PLMW and the Programming Language Design and Implementation (PLDI'22) conference in San Diego CA, USA.
- 4/2022 \$100 Excellence in Research in Computer & Cyber Sciences, *by The Graduate School at Augusta University*, for presentation at Augusta University's 37th Annual Graduate Research Day, in Augusta GA, USA.
- 12/2021 \$1,500 VMCAI 2022 Student Travel Fellowship, *by VMCAI 2022 organizers*, to attend the Verification, Model Checking, and Abstract Interpretation (VMCAI'22) conference in Philadelphia PA, USA.
- 11/2021 \$1,000 Travel Award, *by The Graduate School at Augusta University*, to attend Laboratoire d'Informatique de Paris Nord (LIPN) seminar in Paris, France.
- 8/2015 Grace Hopper Scholarship, *by College of Computing at Georgia Institute of Technology*, to attend Grace Hopper Celebration of Women in Computing (GHC'15) conference in Houston TX, USA.
- 4/2014 Outstanding Computer Science Student Award, *by Augusta University*, for academic excellence, awarded annually to one graduating student.
- 2013–2014 \$7,800 Savannah River Scholars Program (SRSP) Scholarship, *by Augusta University and funded by National Science Foundation*.

---

## Languages

English, Finnish