

# Ella Kokinda

PHD CANDIDATE · CLEMSON UNIVERSITY

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## Education

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### Clemson University

Charleston, SC

#### PHD CANDIDATE IN COMPUTER SCIENCE

Jan 2021 - present

- Advisor: Dr. Paige Rodeghero
- Committee: Dr. D. Matthew Boyer, Dr. Kelly Caine, Dr. Emma Dixon
- Dissertation topic: Informal Learning in STEM education focusing on motivation and live streaming software and game development.

### Clemson University

Clemson, SC

#### ENGINEERING AND SCIENCE EDUCATION (ESED) CERTIFICATE

Fall 2024

- Graduate teaching certificate covering STEM communication methods, curriculum and course development, teaching and pedagogical best practices, ethics in STEM education, and micro teaching in an undergraduate setting.
- Micro Teaching Topic: Principles of Design and Interaction Types

### Clemson University

Charleston, SC

#### MASTER OF SCIENCE IN COMPUTER SCIENCE

May 2022

### Clemson University

Clemson, SC

#### BACHELOR OF SCIENCE IN COMPUTER SCIENCE

May 2017

## Research Interests

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Software development communities, live streaming software development, human factors, software engineering culture, information seeking habits, software engineering education, HCI

My research focuses on creating accessible learning environments that empower diverse learners in technology education. Through qualitative methodologies, I investigate how informal learning opportunities—particularly software development live streams—can provide alternative pathways to technology education for students with varying learning styles and needs. Working with neurodiverse high school students and undergraduate computer science majors has deepened my commitment to user-centered design that adapts to learners rather than forcing learners to adapt to rigid educational structures. I believe technology education should meet students where they are, allowing them to engage authentically with content in ways that work best for them. This approach not only supports traditionally underrepresented groups in computing but improves educational experiences for everyone through enhanced clarity, flexibility, and thoughtful design.

## Research Experience

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### Graduate Research Assistant

Jan 2021 - Present

#### HUMAN FACTORS IN SOFTWARE ENGINEERING LAB - CLEMSON SCHOOL OF COMPUTING

- Designed and conducted multiple qualitative research studies examining how users interact with software development platforms and educational technology
- Employed user research methodologies including interviews, diary studies, and observational research to collect rich qualitative data on user behaviors and needs
- Analyzed research data using thematic analysis to identify patterns and extract actionable insights for educational platform improvements
- Published research in two journals and four peer-reviewed conferences, demonstrating ability to communicate complex findings to diverse audiences
- Translated research findings into practical recommendations for platform design and curriculum development

## Computer Game Coding Camp (Educating Autistic Software Engineers)

Jan 2021 - Present

### INSTRUCTOR, RESEARCHER, CONTENT CREATOR, PROJECT MANAGEMENT

- Interpreted, articulated, and refined technical requirements and instruction guides for game development
- Developed course materials and content for 2D game design using Godot and Scratch
- Editing video content and managing YouTube channel
- Lead camp instruction
- Mentoring groups of neurodiverse highschool students from game concept to short demo game
- Developed website using Canva and other promotional materials for camp advertisement
- Designed online learning experiences for neurodiverse high school students, employing user-centered design principles to create accessible interfaces
- Conducted iterative user testing to evaluate and improve course materials, collecting feedback from students and instructors
- Collaborated with cross-functional teams including principle investigators developers, and neurodiversity subject matter experts to implement research-based improvements
- Developed measurement tools to evaluate user engagement and learning outcomes, using both qualitative and quantitative metrics

## Teaching Experience

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### Co-instructor + Researcher

Fall 2023- Present

#### CPSC 3990 - ELECTIVE COURSE: LIVE STREAMING SOFTWARE AND GAME DEVELOPMENT

- Designed course objectives and research questions pertaining to live streaming as an informal learning tool for upper-level undergraduate computer science students.
- Investigated how users engage with educational live streaming platforms
- Designed and implemented a course incorporating live streaming as an educational tool, based on identified student needs and preferences
- Facilitated student participation in online communities of practice, measuring impacts on learning outcomes and skill development
- Analyzed user feedback to iteratively improve the platform experience, resulting in increased student satisfaction and engagement
- Resulting work published at the American Society for Engineering Education

## Professional Experience

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### NAVAL INFORMATION WARFARE CENTER (NIWC) ATLANTIC (FORMERLY SPAWAR)

2015-2020

#### Scientist, NRL affiliate at NIWC Atlantic

2020

- Front end development for NRL program using Ruby

#### Scientist, STAC

2020

- Reviewing proposal submissions for STAC chairs

#### Scientist, Science and Technology Co-primary Investigator

2019-2020

- Primary investigator in research working with a formally verifiable language, Haskell, and embedded systems in various research and development efforts

#### Scientist, Science and Technology Mentee

2018-2019

- Research mentee working with a formally verifiable language, Haskell, and embedded systems in various research and development efforts

#### Scientist, Mission Assurance Cyber Security

2017-2019

- Datacenter and Cloud Hosting Services (DC2HS) Transition and Integration Cyber Security Specialist and Test Team Lead working with various Navy commands (NIWC, NAVAIR, NAVSEA, NIWC-PAC) to transition mission systems into the Charleston datacenter or to cloud services
- Interfacing with customer teams to ensure the Risk Management Framework (RMF) process is followed
- Test team lead validating customer STIG lists and orchestrating (Independent Verification and Validation) IV&V test events
- A&A with CCI validation input for core datacenter services and template creation

#### Scientist, Student Trainee

2015-2017

- Working with programming, quality assurance, and security of system admin tokens for the Department of Defense
- Implementing Amazon Web Services cloud environment into government systems, validation testing

## University Service

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### Zucker Family Graduate Center, Clemson University

2019- present

#### TOUR GUIDE AND AMBASSADOR

- Campus ambassador for interested students in attending graduate school at the Charleston Zucker Family Graduate Center in Charleston, SC

### School of Computing, Clemson University

2017

#### TOUR GUIDE AND AMBASSADOR

- Tour guide for the School of Computing for interested/newly accepted students to inform them about the computer science program and walk them around the facility

### Clemson University College of Engineering

2015-2017

#### IT DESK TECHNICIAN

- IT technician and service desk personnel for Clemson College of Engineering troubleshooting customer's various operating system and software issues

## Publications

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### JOURNAL ARTICLES

- J.2 **Kokinda, E.**, Rodeghero, P. "Streaming Software Development: Accountability, Community, and Learning", in The Journal of Systems and Software (2023)
- J.1 \*Moster, M., **\*Kokinda, E.**, Rodeghero, P., McNeese, N. "Both Sides of the Story: Changing the "pre-existing culture of dread" surrounding student teamwork in breakout rooms", in Proc. of the 2023 ACM on Human Computer Interaction, Computer Supported Cooperative Work (CSCW '23), Minneapolis, MN, USA, October 13-18, 2023. \* denotes co-first authorship

### PEER-REVIEWED CONFERENCE PAPERS

- C.5 **Kokinda, E.**, Rodeghero, P., Boyer, D. M. "Experiences Using Live Streaming as an Informal Learning Tool in the Formal Classroom", to be presented at 2024 ASEE Annual Conference & Exposition, Montreal, Quebec, Canada, 22-25 June 2025.
- C.4 **Kokinda, E.**, Moster, M., Rodeghero, P., Boyer, D. M. "Informal Learning Opportunities: Neurodiversity, Self-Efficacy, Motivation for Programming Interest", in Proc. of the 16th International Conference on Computer Supported Education - Volume 2: CSEDU (CSEDU '24), Angers, France, 2-4 May 2024.
- C.3 Moster, M., **Kokinda, E.**, Rodeghero, P., Boyer, D. M. "Experiences with Summer Camp Communication via Discord", in Proc. of the 46th IEEE/ACM International Conference on Software Engineering - Software Engineering Education and Training Track (ICSE SEET '24), Lisbon, Portugal, 14-20 April 2024.
- C.2 **Kokinda, E.**, Moster, M., Dominic, J., Rodeghero, P. "Under the Bridge: Trolling and the Challenges of Recruiting Software Developers for Empirical Research Studies", in Proc. of the 45th IEEE/ACM International Conference on Software Engineering - New Ideas and Emerging Results Track (ICSE NIER '23), Melbourne, Australia, 17-19 May 2023.
- C.1 Moster, M., **Kokinda, E.**, Re, M., Dominic, J., Lehmann, J., Begel, A., Rodeghero, P. " 'Can You Help Me?' An Experience Report of Teamwork in a Game Coding Camp for Autistic High School Students", in Proc. of the 44th IEEE/ACM International Conference on Software Engineering - Software Engineering Education and Training Track (ICSE SEET '22), Pittsburgh, PA, USA, May 21-29, 2022.

## Presentations and Posters

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- PRE.3 "Informal Learning Opportunities: Neurodiversity, Self-Efficacy, Motivation for Programming Interest. 16th International Conference on Computer Supported Education (CSEDU 24). May 2024.
- PRE.2 "Both Sides of the Story: Changing the "pre-existing culture of dread" surrounding student teamwork in breakout rooms. Computer Supported Cooperative Work (CSCW) Oct 2023.
- PRE.1 Under the Bridge: Trolling and the Challenges of Recruiting Software Developers for Empirical Research Studies. International Conference on Software Engineering (ICSE). May 2023.
- POST.2 Collaboration Station: Opening up Single-User Software Projects – I-TEST CSforAll. American Society for Engineering Education (ASEE) Annual Conference. June 2025.
- POST.1 WIP: Streamer and Viewer Interactions in Software and Game Development Live Streams. American Society for Engineering Education (ASEE) Annual Conference. June 2024.

## Awards, Fellowships, & Grants

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2023	<b>Churchill A. Carter '52 Endowed Memorial Fellowship</b> , Zucker Family Graduate Education Center	\$ 3,000
2023-2025	<b>Zucker Graduate Education Center PhD Grant</b> , Zucker Family Graduate Education Center	\$ 3,000

## Outreach & Professional Development

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### SERVICE AND OUTREACH

2023-pres	<b>Charleston Graduate Student Association</b> , President, Co-Founder
2023-pres	<b>CECAS Aspire Peer Mentor</b> , Student Representative
2023	<b>School of Computing Accreditation Visit</b> , Student Representative
2022-2024	<b>Clemson Graduate Student Advisory Board</b> , Vice President
2022-pres	<b>Clemson Graduate Student Advisory Board</b> , School of Computing - Charleston Zucker Campus Representative
2022-2024	<b>School of Computing Graduate Student Association</b> , Vice President
2022	<b>School of Computing New PhD Student Seminar</b> , Panelist
2022, 2023	<b>Women in Industry Day - Society of Women Engineers</b> , Clemson University Student Representative
2022	<b>Letters to a Pre-Scientist</b> , Penpal

### PEER REVIEWING - CONFERENCE PROCEEDINGS AND WORKSHOP PAPERS

2025	<b>The American Society of Engineering Education Annual Conference and Exposition (ASEE)</b>
2024	<b>The American Society of Engineering Education Annual Conference and Exposition (ASEE)</b>
2024	<b>The ACM Technical Symposium on Computer Science Education (SIGCSE TS)</b>
2024	<b>Hawaii International Conference on System Sciences (HICSS)</b>
2022	<b>ACM Conference on Human Computer Interaction, Computer Supported Cooperative Work(CSCW)</b>
2021	<b>IEEE/ACM International Conference on Program Comprehension (ICPC 2021)</b>
2021	<b>ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE)</b>