Thomas J. Rexin

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Education

North Carolina State University (NCSU) *August 2025 – Present*
Doctor of Philosophy in Computer Science Raleigh, North Carolina, U.S.A

University of California, San Diego (UCSD), Jacobs School of Engineering *September 2024 – June 2025 (exp.)*
Master of Science in Computer Science San Diego, California, U.S.A

- GPA: 3.8/4.0, Master's Thesis: "An Analysis of Students' One-Shot Prompting Behaviors with GitHub Copilot in Large Code Bases"

University of California, San Diego (UCSD), Jacobs School of Engineering *August 2021 – June 2024*
Bachelor of Science in Computer Science San Diego, California, U.S.A

- GPA: 3.7/4.0, consistently achieved Provost Honors in nearly every academic quarter

Yonsei University *August 2023 – December 2023*
Bachelor of Science in Computer Science Seoul, Republic of Korea

- GPA: 3.7/4.0, studied abroad through UCEAP (University of California Education Abroad Program)

Folsom Lake College, Los Rios Community College District *June 2019 – August 2021*
Associate in Science in Mathematics and Science Folsom, California, U.S.A

- GPA: 4.0/4.0, Advanced Education (High School) Student, dual-graduated with Highest Honors

Research Interests

Investigations into broadening participation in CS, CS domain-specific self-regulated learning behaviors, pedagogically improving K-12 CS education, and the role that trust plays in effective use of LLMs

Research Experience

Identifying Student Struggles in Large Code Bases with Dr. Soosairaj *September 2024 – Present*

- **Co-authored** a paper about understanding students' struggles when working with large code bases by conducting think-aloud technical interviews and a qualitative coding analysis to identify behavior patterns, **Best Paper ICER '25**
- **Co-authored** a paper identifying students' code quality defects in large code bases through a manual code review and statistical analyses to understand factors influencing defect frequency
- **Master's thesis** investigating students' one-shot prompting behaviors with GitHub Copilot when interacting with a large code base through an open-coding thematic analysis of prompts and Copilot responses, submit. to SIGCSE '26

Live Coding in Introductory Programming with Dr. Soosairaj *April 2024 – August 2024*

- **First-authored** a paper examining the impact of live coding CS1 lectures on students with and without prior programming experience through a thematic analysis of survey responses, rejected by SIGCSE 2025
- **Co-authored** a paper accepted to ACM Transactions on Computing Education (TOCE) evaluating the impact of an active live coding pedagogy on students' performance in course outcomes in a CS1 course

Analyzing The Language of Mental Burnout on Reddit with Dr. ElSherief *September 2022 – June 2023*

- Collaborated on a research project implementing seven machine learning and natural language processing (NLP) models to classify social media posts on mental burnout into seven distinct themes
- Presented a research poster at the UCSD ERSP Showcase to faculty and industry partners and delivered a full-length presentation at the ERSP National Conference for our research findings

Teaching Experience

Upper-Division Graduate Teaching Assistant *March 2025 – June 2025*

- Assisted with "Working with Large Code Bases" course, taught students how to interact with a large code base
- Provided feedback to student pull requests and facilitated peer code reviews, oversaw 5 student group projects

CS1 Graduate Teaching Assistant (2x) *September 2024 – March 2025*

- Led the Labs team of 7 tutors for a CS1 course with LLM course policies and a course-specific AI Tutor
- Developed lab assignments and held 4 office hours, 3 lab sections, and discussions for over 150 students weekly

CS1 Undergraduate Instructional Assistant (5x) *September 2022 – June 2024*

- Tutored over 1,500 students for the CS1 course, including one quarter with LLM course policies for GitHub Copilot
- Assisted students during tutor and lab hours by debugging assignments and reinforcing core programming concepts

Service Experience

Co-Vice President of Engineering Outreach Program *June 2023 – June 2024*

- Oversaw mechanical engineering, electrical engineering, and computer science off-campus outreach events
- Organized UCSD campus field trips and tours of labs and project spaces for students from underserved schools to see real-world applications of engineering concepts and learn about career paths beyond high school

CSE Outreach Chair for Computer Science Outreach Program *September 2022 – June 2023*

- Taught a class of ~25 UC San Diego students to deliver over 30 computer science outreach lessons each quarter
- Created interactive lesson plans and coordinated outreach events at 5 different elementary, middle, and high schools in socioeconomically disadvantaged communities in San Diego and its surrounding areas

Reviewed For:

- SIGCSE TS 2026

Honors and Awards

ACM Conference on International Computing Education Research (ICER) 2025 Best Paper Award *August 2025*

- Awarded best paper for "Needles in a Haystack: Student Struggles with Working on Large Code Bases"

2024 CSE Award for Excellence in Service and Leadership, Undergraduate *June 2024*

- One of two undergraduates recognized by the CSE Department for exceptional service and leadership

UC San Diego Provost Honors, Sixth College *June 2024*

- Awarded the prestigious Provost Honors nearly every academic quarter of my undergraduate education

2023 CSE Award for Excellence in Service and Leadership, Undergraduate *June 2023*

- One of two undergraduates recognized by the CSE Department for exceptional service and leadership

Inductee of Eta Kappa Nu (IEEE-HKN), Kappa Psi Chapter, Beta Lambda Class *May 2022*

- In recognition of excellent academic achievements and exceptional leadership and scholarship in engineering

IDEA Scholar and Ambassador (UCSD Jacobs School of Engineering) *July 2021*

- One of forty incoming freshman engineering students selected to be ambassadors throughout time at UC San Diego

Publications

[1] Anshul Shah, **Thomas Rexin**, Anya Chernova, Gonzalo Allen-Perez, William G. Griswold, and Adalbert Gerald Soosai Raj. 2025. Needles in a Haystack: Student Struggles with Working on Large Code Bases. In Proceedings of the 2025 ACM Conference on International Computing Education Research V.1 (ICER '25). Association for Computing Machinery, New York, NY, USA, 27–40. https://doi.org/10.1145/3702652.3744218

[2] Anshul Shah, **Thomas Rexin**, Gonzalo Allen-Perez, Kevin Wu, William G. Griswold, and Adalbert Gerald Soosai Raj. 2025. Identifying Students' Code Quality Defects while Contributing to Large Code Bases. In Proceedings of the 30th ACM Conference on Innovation and Technology in Computer Science Education V. 1 (ITiCSE 2025). Association for Computing Machinery, New York, NY, USA, 514–520. https://doi.org/10.1145/3724363.3729074

[3] Anshul Shah, **Thomas Rexin**, Fatimah Alhumrani, William G. Griswold, Leo Porter, and Gerald Soosai Raj. 2025. An Empirical Evaluation of Active Live Coding in CS1. ACM Trans. Comput. Educ. 25, 3, Article 34 (September 2025), 33 pages. https://doi.org/10.1145/3743686

Professional Experience

Software Development Engineer Intern @ Amazon Inc. *June 2024 – September 2024*

- Collaborated with Amazon Music's Voice Experience Team to improve the recommendation heuristic for an integral use case, handling over 75,000 requests weekly and enhancing listening duration and precision by 25%
- Authored a detailed design document for code changes, reviewed by a team of 10 software engineers
- Deployed feature updates to the Amazon Music production codebase

SSD Development Engineering Intern @ Solidigm Technology *June 2022 – December 2022*

- Collaborated with software engineers to develop and validate firmware for Solidigm's advanced SSDs
- Responded to customer feedback, implementing improvements to enhance existing products and methods through firmware advancements

Undergraduate Technical Intern @ Solidigm Technology *December 2021 – June 2022*

- Automated essential processes by programming business logic and designed over 10 critical reports to senior staff to support their daily predictions and decision making

Undergraduate Technical Intern @ Intel Inc. *June 2021 – December 2021*

- Supported the planning team by developing 5+ critical reports into business workflows

Skills

- **Programming Languages:** Python, Java, C++, JavaScript, CSS, HTML, Markdown
- **Methods:** Thematic analysis, inductive coding, manual code review, think-aloud protocol, surveys, hypothesis testing, developing linear regression and other statistical models
- **Machine Learning and Natural Language Processing (NLP) Models:** Logistic Regression, Support Vector Machine, BERT
- **Other Tools & Technologies:** PrairieLearn, Gradescope, Canvas, Google Workspace, Microsoft Office, Jupyter Notebook
- **Relevant Course Work:** Computer Science Research, Teaching Methods in Computer Science, Advanced Topics in Software Engineering, Computer Architecture: A Software Perspective, Machine Learning, Artificial Intelligence, Recommender Systems and Web Mining, Computer Vision, Computer Graphics, Computer Networks, Computer Security

References

1. **Dr. Adalbert Gerald Soosairaj**
   Associate Teaching Professor, Computer Science & Engineering Department
   University of California, San Diego
   E-mail: asoosairaj@ucsd.edu
   Relationship: Research Advisor

2. **Anshul Shah**
   PhD Student, Computer Science & Engineering Department
   University of California, San Diego
   E-mail: ayshah@ucsd.edu
   Relationship: Research Advisor

3. **Clayton Hatridge**
   Senior Software Development Engineer, Amazon Music
   Amazon Corporation
   E-mail: hatridge@amazon.com
   Relationship: Manager