

Adalbert Gerald Soosai Raj

ASSOCIATE TEACHING PROFESSOR · COMPUTING EDUCATION RESEARCH

Department of Computer Science and Engineering, University of California, San Diego

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Education

Interdisciplinary Program in Computer Sciences & Education, University of Wisconsin-Madison

Madison, WI

PH.D., COMPUTER SCIENCES AND EDUCATION

2015 – 2019

- Advisors: Prof. Jignesh M. Patel (CS) and Prof. Richard Halverson (Education)
- Dissertation: *Effect of Bilingual Education and Live-coding on Student Learning and Engagement in Teaching and Learning Computer Sciences*

Department of Computer Sciences, University of Wisconsin-Madison

Madison, WI

M.S., COMPUTER SCIENCES

2013 – 2015

Department of Computer Science and Engineering, College of Engineering Guindy (CEG), Anna University

Chennai, India

B.TECH., INFORMATION TECHNOLOGY

2006 – 2010

Professional Experience

ACADEMIC

- 2023 – present **Associate Teaching Professor**, University of California, San Diego
- 2019 – 2023 **Assistant Teaching Professor**, University of California, San Diego
- 2015 – 2019 **Graduate Student Instructor**, University of Wisconsin-Madison
- 2014 – 2019 **Research Assistant**, University of Wisconsin-Madison
- 2014 **Teaching Assistant**, University of Wisconsin-Madison
- 2013 – 2014 **Project Assistant, Kennedy Lab**, University of Wisconsin-Madison

INDUSTRY

- 2015 **Database Intern**, Pivotal, Palo Alto
- 2014 **Software Engineering Intern**, Teradata-Aster, San Carlos
- 2012 – 2013 **Software Developer**, Sandvine, Bangalore
- 2010 – 2012 **Software Engineer**, Cisco Systems, Bangalore
- 2010 **Software Engineer**, Starent Networks, Bangalore

Publications

BOOKS

- [1] **Adalbert Gerald Soosai Raj**, Sorin Lerner, Winny Wilson, Annie Wai, Joseph Warmus, Yeohee Im, Sophia Krause-Levy, Laura Xu, Alex Macedo, and Joe Politz. *Intro to Programming in Python*. Free Online Interactive Textbook. <https://stepik.org/course/84164/syllabus>
- [2] Rachel Lim, Sunwoo Kim, Joe Politz, Niema Moshiri, and **Adalbert Gerald Soosai Raj**. *Intro to Programming and Computational Problem Solving (using Java)*. Free Online Interactive Textbook. <https://stepik.org/course/100177/syllabus>

- [3] **Adalbert Gerald Soosai Raj**, Prudhviraj R. Naidu, Joshua Myer Kave, Steven Diwen Shi, Kenneth Joonha Song, and Renita Justin. *Introduction to Programming in Python*. Free Online Interactive Textbook. <https://cogniterra.org/course/705/>

PEER-REVIEWED PUBLICATIONS

2026

- [1] Alex Chao, Mia Chen, Yuan-Kai (Kevin) Yang, William G. Griswold, Leo Porter, and **Adalbert Gerald Soosai Raj**. Student Perspectives on the Role of Teaching Assistants in the Age of GenAI. In Proceedings of the 2026 ACM Conference on International Computing Education Research (ICER 2026).
- [2] Annapurna Vadaparty, Devamardeep Hayatpur, **Adalbert Gerald Soosai Raj**, Leo Porter, and Daniel Zingaro. Planning on Paper: Problem Decomposition with Diagrams in Introductory Computing. In Proceedings of the 2026 ACM Conference on International Computing Education Research (ICER 2026).
- [3] Francis Geng, Anshul Shah, Mia Chen, Paul Denny, Juho Leinonen, Bill Griswold, **Adalbert Gerald Soosai Raj**, and Leo Porter. Mapping the Emerging Curriculum for AI-Assisted Software Engineering via Syllabus Analysis. arXiv preprint arXiv:2608.05898.
- [4] Anshul Shah, Thomas Rexin, Andrew Smithwick, Almog Bar-Yossef, Joshua Myer Kave, William G. Griswold, and **Adalbert Gerald Soosai Raj**. Using Peer Code Reviews to Scale a Brownfield Software Engineering Course. In Proceedings of the 31st ACM Conference on Innovation and Technology in Computer Science Education (ITICSE 2026).
- [5] Anya Chernova, Audria Montalvo, Vinod Vairavaraj, Liam Hardy, and **Adalbert Gerald Soosai Raj**. Students' Evaluation of a Free and a Paid Interactive eTextbook for Computing Education. In Proceedings of the 57th ACM Technical Symposium on Computer Science Education V.1 (SIGCSE TS 2026).
- [6] Francis Geng, Anshul Shah, Haolin Li, Nawab Mulla, Steve Swanson, **Adalbert Gerald Soosai Raj**, Daniel Zingaro, and Leo Porter. Exploring Student-AI Interactions in Vibe Coding. In Proceedings of the 28th Australasian Computing Education Conference (ACE 2026).

2025

- [7] Anshul Shah, Thomas Rexin, Elena Tomson, William G. Griswold, Leo Porter, and **Adalbert Gerald Soosai Raj**. Evolution of Programmers' Trust in Generative AI Programming Assistants. Proceedings of the 25th Koli Calling International Conference on Computing Education Research.
- [8] Ismael Villegas Molina, Emma Hogan, Nawab Mulla, Josue Martinez, William G. Griswold, Leo Porter, and **Adalbert Gerald Soosai Raj**. Faculty Identities and Their Effects on Implementing Culturally Relevant Pedagogies at Hispanic-Serving Institutions. In Proceedings of the ACM Global Computing Education Conference 2025 (CompEd 2025), Volume 1. **Best Student Paper Award**
- [9] Anshul Shah, Thomas Rexin, Fatimah Alhumrani, William G. Griswold, Leo Porter, and **Adalbert Gerald Soosai Raj**. An Empirical Evaluation of Active Live Coding in CS1. *ACM Transactions on Computing Education*, 25(3).
- [10] Anshul Shah, Thomas Rexin, Anya Chernova, Gonzalo Allen-Perez, William G. Griswold, and **Adalbert Gerald Soosai Raj**. Needles in a Haystack: Student Struggles with Working on Large Code Bases. In Proceedings of the 2025 ACM Conference on International Computing Education Research (ICER 2025). **Best Paper Award**
- [11] Ismael Villegas Molina, Emma Hogan, Josue Martinez, Nawab Mulla, William G. Griswold, Leo Porter, and **Adalbert Gerald Soosai Raj**. Faculty Reasons For Using or Refraining From Culturally Relevant Pedagogies at Hispanic-Serving Institutions. In Proceedings of the 2025 Conference on Research on Equitable and Sustained Participation in Engineering, Computing, and Technology (RESPECT 2025).
- [12] Emma Hogan, Zyanya Rios, Emily Nguyen, **Adalbert Gerald Soosai Raj**, William G. Griswold, and Leo Porter. How Students Value Technology vs. Paper-Based Resources in CS1 in Prison. In Proceedings of the 2025 Conference on Research on Equitable and Sustained Participation in Engineering, Computing, and Technology (RESPECT 2025).
- [13] Ismael Villegas Molina, Emma Hogan, Nawab Mulla, Josue Martinez, William G. Griswold, Leo Porter, and **Adalbert Gerald Soosai Raj**. Faculty Implementation of Culturally Relevant Pedagogies at Hispanic-Serving Institutions. In Proceedings of the 30th ACM Conference on Innovation and Technology in Computer Science Education (ITICSE 2025).
- [14] Anshul Shah, Thomas Rexin, Gonzalo Allen-Perez, Kevin Wu, William G. Griswold, and **Adalbert Gerald Soosai Raj**. 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 (ITICSE 2025).

- [15] Emma Hogan, Ginger Smith, Jose Salazar, Nik Virrey, Audria Saravia Montalvo, **Adalbert Gerald Soosai Raj**, William Griswold, and Leo Porter. Attitudes Towards Computing Amongst Incarcerated Adult Students in CS1. In Proceedings of the 30th ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE 2025).
- [16] Anshul Shah, Thanh Tong, Elena Tomson, Steven Shi, William G. Griswold, and **Adalbert Gerald Soosai Raj**. Students' Program Comprehension Processes in a Large Code Base. 2025 IEEE/ACM 33rd International Conference on Program Comprehension (ICPC 2025).
- [17] Anshul Shah, Anya Chernova, Elena Tomson, Leo Porter, William G. Griswold, and **Adalbert Gerald Soosai Raj**. Students' use of GitHub Copilot for working with large code bases. Proceedings of the 56th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2025).
- [18] Gonzalo Allen-Perez, Luis Millan, Brandon Nghiem, Kevin Wu, Anshul Shah, and **Adalbert Gerald Soosai Raj**. An Analysis of Students' Testing Processes in CS1. Proceedings of the 56th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2025).
- [19] Emma Hogan, Audria Saravia-Montalvo, Ginger Smith, Emily Nguyen, Zyanya Rios, **Adalbert Gerald Soosai Raj**, William G. Griswold, and Leo Porter. Fears and Confidence amongst Incarcerated Adult CS1 Students. Proceedings of the 56th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2025).

2024

- [20] Ismael Villegas Molina, Audria Montalvo, Shera Zhong, Mollie Jordan, and **Adalbert Gerald Soosai Raj**. Generation and Evaluation of a Culturally-Relevant CS1 Textbook for Latines using Large Language Models. Proceedings of the 2024 ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE 2024).
- [21] Anshul Shah, Fatimah Alhumrani, William G. Griswold, Leo Porter, and **Adalbert Gerald Soosai Raj**. A Comparison of Student Behavioral Engagement in Traditional Live Coding and Active Live Coding Lectures. Proceedings of the 2024 ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE 2024).
- [22] Anshul Shah, Vardhan Agarwal, William G. Griswold, Leo Porter, and **Adalbert Gerald Soosai Raj**. In-person vs Blended Learning: An Examination of Grades, Attendance, Peer Support, Competitiveness, and Belonging. Proceedings of the 2024 ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE 2024).
- [23] Emma Hogan, John Driscoll, **Adalbert Gerald Soosai Raj**, William Griswold, and Leo Porter. Uncovering Meaningful Computing Contexts for Incarcerated College Students. Proceedings of the 2024 ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE 2024).
- [24] Emma Hogan, Darakhshan Mir, Andrew Cencini, Keith O'Hara, **Adalbert Gerald Soosai Raj**, William Griswold, and Leo Porter. Re-instatement of Pell Grants for Incarcerated Students: Implications for CS Education. Proceedings of the 2024 RESPECT Annual Conference.
- [25] Ismael Villegas Molina, Audria Montalvo, and **Adalbert Gerald Soosai Raj**. U.S. Latines in Computing: A Literature Review. Proceedings of the 55th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2024).
- [26] Yiyin Shen, Xinyi Ai, **Adalbert Gerald Soosai Raj**, Rogers Jeffrey Leo John, and Meenakshi Syamkumar. Implications of ChatGPT for Data Science Education. Proceedings of the 55th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2024).
- [27] Emma Hogan, Ruoxuan Li, **Adalbert Gerald Soosai Raj**, William G. Griswold, and Leo Porter. Challenges and Approaches to Teaching CS1 in Prison. Proceedings of the 55th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2024).
- [28] Mollie Jordan, Kevin Ly, and **Adalbert Gerald Soosai Raj**. Need a Programming Exercise Generated in Your Native Language? ChatGPT's Got Your Back: Automatic Generation of Non-English Programming Exercises Using OpenAI GPT-3.5. Proceedings of the 55th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2024).
- [29] Anshul Shah and **Adalbert Gerald Soosai Raj**. A Review of Cognitive Apprenticeship Methods in Computing Education Research. Proceedings of the 55th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2024).
- [30] Anshul Shah, Jerry Yu, Thanh Tong, and **Adalbert Gerald Soosai Raj**. Working with Large Code Bases: A Cognitive Apprenticeship Approach to Teaching Software Engineering. Proceedings of the 55th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2024).

2023

- [31] Anshul Shah, Emma Hogan, Vardhan Agarwal, John Driscoll, Leo Porter, William G. Griswold, and **Adalbert Gerald Soosai Raj**. An Empirical Evaluation of Live Coding in CS1. In Proceedings of the 19th ACM Conference on International Computing Education Research (ICER 2023).
- [32] Mrinal Sharma, Hayden McTavish, Zimo Peng, Anshul Shah, Vardhan Agarwal, Caroline Sih, Emma Hogan, Ismael Villegas Molina, **Adalbert Gerald Soosai Raj**, and Kristen Vaccaro. Engagement and Anonymity In Online Computer Science Course Forums. In Proceedings of the 19th ACM Conference on International Computing Education Research (ICER 2023).
- [33] Anshul Shah, Vardhan Agarwal, Michael Granado, John Driscoll, Emma Hogan, Leo Porter, William G. Griswold, and **Adalbert Gerald Soosai Raj**. The Impact of a Remote Live-Coding Pedagogy on Student Programming Processes, Grades, and Lecture Questions Asked. In Proceedings of the 2023 Conference on Innovation and Technology in Computer Science Education (ITiCSE 2023).
- [34] Ismael Villegas Molina, Adrian Salguero, Shera Zhong, and **Adalbert Gerald Soosai Raj**. The Effects of Spanish-English Bilingual Instruction in a CS0 Course for High School Students. In Proceedings of the 2023 Conference on Innovation and Technology in Computer Science Education (ITiCSE 2023).
- [35] Anshul Shah, Michael Granado, Mrinal Sharma, John Driscoll, Leo Porter, William G. Griswold, and **Adalbert Gerald Soosai Raj**. Understanding and Measuring Incremental Development in CS1. In Proceedings of the 54th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2023).
- [36] Emma Hogan, Ruoxuan Li, and **Adalbert Gerald Soosai Raj**. CS0 vs. CS1: Understanding Fears and Confidence amongst Non-majors in Introductory CS Courses. In Proceedings of the 54th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2023).
- [37] Majed Almansoori, Jessica Lam, Elias Fang, **Adalbert Gerald Soosai Raj**, and Rahul Chatterjee. Towards Finding the Missing Pieces to Teach Secure Programming Skills to Students. In Proceedings of the 54th ACM Technical Symposium on Computer Science Education (SIGCSE TS 2023).

2022

- [38] Jessica Lam, Elias Fang, Majed Almansoori, Rahul Chatterjee, and **Adalbert Gerald Soosai Raj**. Identifying the Gaps in Knowledge and Skills Required for Secure Programming among our Undergraduate Computing Students. In Proceedings of the 53rd ACM Technical Symposium on Computer Science Education (SIGCSE TS 2022).
- [39] Ruanqianqian (Lisa) Huang, Kasra Ferdowsi, Ana Selvaraj, **Adalbert Gerald Soosai Raj**, and Sorin Lerner. Investigating the Impact of Using a Live Programming Environment in a CS1 Course. In Proceedings of the 53rd ACM Technical Symposium on Computer Science Education (SIGCSE TS 2022).
- [40] Vardhan Agarwal, Yada Chuengsatiansup, Elise Kim, Yuzi Lyu, and **Adalbert Gerald Soosai Raj**. An Analysis of Stress and Sense of Belonging Among Native and Non-native English Speakers Learning Computer Science. In Proceedings of the 53rd ACM Technical Symposium on Computer Science Education (SIGCSE TS 2022).

2021

- [41] Ana Selvaraj, Eda Zhang, Leo Porter, and **Adalbert Gerald Soosai Raj**. Live Coding: A Review of the Literature. In Proceedings of the 26th ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE 2021).
- [42] Majed Almansoori, Jessica Lam, Elias Fang, **Adalbert Gerald Soosai Raj**, and Rahul Chatterjee. Textbook Underflow: Insufficient Security Discussions in Textbooks Used for Computer Systems Courses. In Proceedings of the 52nd ACM Technical Symposium on Computer Science Education (SIGCSE TS 2021).
- [43] Carmen Nayeli Guzman, Anne Xu, and **Adalbert Gerald Soosai Raj**. Experiences of Non-Native English Speakers Learning Computer Science in a US University. In Proceedings of the 52nd ACM Technical Symposium on Computer Science Education (SIGCSE TS 2021).
- [44] Derek Hwang, Vardhan Agarwal, Yuzi Lyu, Divyam Rana, Satya Ganesh Susarla, and **Adalbert Gerald Soosai Raj**. A Qualitative Analysis of Lecture Videos and Student Feedback on Static Code Examples and Live Coding: A Case Study. In Proceedings of the 23rd Australasian Computing Education Conference (ACE 2021).

2020

- [46] Majed Almansoori, Jessica Lam, Elias Fang, Kieran Mulligan, **Adalbert Gerald Soosai Raj**, and Rahul Chatterjee. How Secure are our Computer Systems Courses? In Proceedings of the 16th ACM Conference on International Computing Education Research (ICER 2020).

- [47] **Adalbert Gerald Soosai Raj**, Pan Gu, Eda Zhang, Arokia Xavier Annie R, Jim Williams, Richard Halverson, and Jignesh M. Patel. Live-coding vs Static Code Examples: Which is better with respect to Student Learning and Cognitive Load? In Proceedings of the 22nd Australasian Computing Education Conference (ACE 2020). **Best Paper Award**

2019

- [48] **Adalbert Gerald Soosai Raj**, Hanqi Zhang, Viren Abhyankar, Saswati Mukerjee, Eda Zhang, Jim Williams, Richard Halverson, and Jignesh M. Patel. Impact of Bilingual CS Education on Student Learning and Engagement in a Data Structures Course. In Proceedings of the 19th Koli Calling International Conference on Computing Education Research.
- [49] **Adalbert Gerald Soosai Raj**, Eda Zhang, Saswati Mukherjee, Jim Williams, Richard Halverson, and Jignesh M. Patel. Effect of Native Language on Student Learning and Classroom Interaction in an Operating Systems Course. In Proceedings of the 24th ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE 2019).
- [50] Harshad Deshmukh, **Adalbert Gerald Soosai Raj**, and Jignesh M. Patel. Determining Data Locality in a Distributed System using Aggregation of Locality Summaries. US Patent 10,310,748.
- [51] **Adalbert Gerald Soosai Raj**. Effect of Bilingual Education and Live-Coding on Student Learning and Engagement in Teaching and Learning Computer Sciences. PhD Dissertation, University of Wisconsin-Madison.

2018

- [52] **Adalbert Gerald Soosai Raj**, Jignesh M. Patel, Richard Halverson, and Erica Rosenfeld Halverson. Role of Live-coding in Teaching Introductory Programming. In Proceedings of the 18th Koli Calling International Conference on Computing Education Research.
- [53] **Adalbert Gerald Soosai Raj**, Jignesh Patel, and Richard Halverson. Is More Active Always Better for Teaching Introductory Programming? In Proceedings of the 6th International Conference on Learning and Teaching in Computing and Engineering (LaTiCE'18).
- [54] **Adalbert Gerald Soosai Raj**, Kasama Ketsuriyonk, Jignesh M. Patel, and Richard Halverson. Does Native Language Play a Role in Learning a Programming Language? In Proceedings of the 49th ACM Technical Symposium on Computer Science Education (SIGCSE '18).
- [55] **Adalbert Gerald Soosai Raj**, Varun Naik, Jignesh M. Patel, and Richard Halverson. How to Teach Modern C++ to Someone Who Already Knows Programming? In Proceedings of the 20th Australasian Computing Education Conference (ACE'18).

2017 & EARLIER

- [56] **Adalbert Gerald Soosai Raj**, Kasama Ketsuriyonk, Jignesh M. Patel, and Richard Halverson. What Do Students Feel About Learning Programming Using Both English And Their Native Language? In Proceedings of the 5th International Conference on Learning and Teaching in Computing and Engineering (LaTiCE'17).
- [57] Jing Fan, **Adalbert Gerald Soosai Raj**, and Jignesh M. Patel. The Case Against Specialized Graph Analytics Engines. In Proceedings of the 7th Biennial Conference on Innovative Data Systems Research (CIDR'15).

Grants, Honors & Awards

GRANTS AND FUNDING

2025 – 2028	NSF Award 2506612 (Co-PI) , <i>Towards a Large Language Model-based Smart Learning Hub for Computing Education</i> , with PI Sorin Lerner and co-PI Ramamohan Paturi, \$900,000
	California Learning Lab Foundation Award (Co-PI) , <i>Improving Student Engagement and Outcomes Equitably with Course-specific Open-sourced AI-tutors</i> , with PI Ramamohan Paturi and co-PIs Sorin Lerner, Sam Lau, Gena Sbeglia, Gail Heyman, Stanley Lo, Trevor Bonjour, and others, \$1,500,000
2024 – 2027	NSF Award 2417531 (PI) , <i>Improving Student Comprehension of Programming Components within Large Code Bases</i> , with co-PI William G. Griswold, \$300,000
2024 – 2026	NSF Award 2417787 (PI) , <i>Generation and Evaluation of Culturally Relevant Computing Resources for Latines in Introductory Programming</i> , \$300,000

- 2023 – 2026 **NSF Award 2315909 (Co-PI)**, *BPC-DP: Improving Computing Education for Incarcerated College Students*, with PI Leo Porter and co-PI William G. Griswold, \$300,000
- 2023 – 2024 **CDIIP Grant (PI)**, *Teaching the “Hidden Curriculum” of Software Development and Creating a Supplemental Free, Digital Textbook*, \$50,000
- 2021 – 2022 **CDIIP Grant (Co-PI)**, *(More) Free, Interactive, Open Educational Resources for Lower-Division Programming Courses*, with PI Niema Moshiri and co-PI Joe Politz, \$38,273
- 2021 – 2023 **NSF Award 2044473 (PI)**, *Determining the Effectiveness of Live Coding on Student Learning in Introductory Programming*, with co-PIs William G. Griswold and Leo Porter, \$299,973
- 2019 – 2020 **Google ExploreCSR Award (Co-PI)**, *Introducing Community College Women to 4-Year University Research Opportunities*, with PI Christine Alvarado, \$18,000
- 2019 – 2023 **US Dept. of Education Award U411C190048 (Collaborator)**, *CS for English Learners (CSforEL)*, with co-PIs Deborah Costa Hernandez, Beth Simon, Megan Hopkins, and others, \$3,993,941
- 2018 **Scott Kloeck-Jenson Fellowship**, For dissertation research in India, \$4,500

HONORS AND AWARDS

- 2025 **Best Student Paper Award**, *Faculty Identities and Their Effects on Implementing Culturally Relevant Pedagogies at Hispanic-Serving Institutions*, ACM Global Computing Education Conference (CompEd)
- 2025 **Best Paper Award**, *Needles in a Haystack: Student Struggles with Working on Large Code Bases*, ACM Conference on International Computing Education Research (ICER)
- 2022 – 23 **Best Undergraduate Teacher Award**, Department-wide teaching award, CSE Department, UC San Diego
- 2020 **oSTEM UCSD Faculty of the Year Award**
- 2020 **Best Paper Award**, *Live-coding vs Static Code Examples: Which is better with respect to Student Learning and Cognitive Load?*, Australasian Computing Education Conference (ACE)
- 2019 **Capstone Ph.D. Teaching Award**, University-wide teaching award, University of Wisconsin-Madison
- 2018 **Best CS Graduate Student Instructor Award**, Department-wide teaching award, University of Wisconsin-Madison
- 2018 **CS Dept. Thank You Award**, For efforts in broadening participation in Computer Sciences, UW-Madison
- 2017 **CS Dept. Thank You Award**, For creating pathways for women to major in Computer Sciences, UW-Madison
- 2012 **Cisco Achievement Program (CAP) Award**, For contributions to Diameter Credit Control Protocol (DCCA)
- 2011 **Cisco Star Performer Award**, For developing a technical on-boarding program for new hires
- 2008 **CEG Alumni Association Endowment Award**

STUDENT AWARDS

- 2022 **Jessica Lam**, Finalist, CRA Undergraduate Research Award
- 2022 **Ana Selvaraj**, Honorable Mention, CRA Undergraduate Research Award

Invited Talks & Presentations

INVITED TALKS

INVITED TALK: “THE EFFECTIVENESS OF LIVE CODING ON STUDENT LEARNING AND ENGAGEMENT”

- Carnegie Mellon University (INI), Pittsburgh, PA 2022
- Carnegie Mellon University (CSD), Pittsburgh, PA 2022
- Ohio Wesleyan University, Delaware, OH 2022
- University of Michigan Ann Arbor, Ann Arbor, MI 2022
- Oberlin College, Oberlin, OH 2021

INVITED TALK: “UNDERSTANDING AND AIDING NON-NATIVE ENGLISH SPEAKERS LEARNING COMPUTER SCIENCE”

- University of California, Berkeley, CA 2019
- Stanford University, Stanford, CA 2019
- University of Illinois at Urbana-Champaign, IL 2019
- University of Texas at Austin, TX 2019
- Swarthmore College, Swarthmore, PA 2019
- Columbia University, New York, NY 2019
- Colgate University, Hamilton, NY 2019
- Purdue University, West Lafayette, IN 2019
- Western Washington University, Bellingham, WA 2019
- Johns Hopkins University, Baltimore, MD 2019
- University of California, San Diego, CA 2019
- University of Wisconsin-Madison, Madison, WI 2018
- Rhodes College, Memphis, TN 2018
- Rollins College, Winter Park, FL 2018

INVITED TALK: “HUMAN-CENTERED PROCESS-ORIENTED INTRODUCTION TO PROGRAMMING”

- University of Glasgow, Glasgow, UK 2026
- University of Wisconsin-Madison, Madison, WI 2026

- 2022 “**Programming Processes**”, ASAN seminar, College of Engineering Guindy (CEG), India
- 2021 “**Inclusive Computing Education**”, Invited panelist, CS 302: Designing CS Education, UC Berkeley
- 2020 “**How Research Works**”, Vellore Institute of Technology (VIT), India
- 2020 “**Non-native English Speakers Learning Computing**”, UC San Diego
- 2017 “**Modernizing C++ at UW-Madison**”, Google, Madison
- 2016 “**Learning to Learn Programming**”, WACM, UW-Madison
- 2012 “**Diameter Base Protocol**” (seminar talk), Sandvine, Bangalore
- 2011 “**Wireless Networking**”, Cisco Systems, Bangalore

CONFERENCE PRESENTATIONS

Need a Programming Exercise Generated in Your Native Language? ChatGPT’s Got Your Back: Automatic Generation of Non-English Programming Exercises Using OpenAI GPT-3.5. *SIGCSE 2024*.

Live Coding: A Review of the Literature. *ITiCSE 2021*.

Experiences of Non-Native English Speakers Learning Computer Science in a US University. *SIGCSE 2021*.

Textbook Underflow: Insufficient Security Discussions in Textbooks Used for Computer Systems Courses. *SIGCSE 2021*.

Role of Live-coding in Teaching Introductory Programming. *Koli Calling 2018*.

Is More Active Always Better for Teaching Introductory Programming? *LaTiCE 2018*.

Does Native Language Play a Role in Learning a Programming Language? *SIGCSE 2018*.

How to Teach Modern C++ to Someone Who Already Knows Programming? *ACE 2018*.

What Do Students Feel About Learning Programming Using Both English And Their Native Language? *LaTiCE 2017*.

Teaching Experience

UNIVERSITY OF CALIFORNIA, SAN DIEGO

Fall 2026	CSE 190 , Working with Large Codebases – Traditional and Agentic Software Engineering
Winter 2026	CSE 95 , Tutor Apprenticeship
Winter 2026	CSE 190 , Working with Large Code Bases
Spring 2026	CSE 29 , Systems Programming and Software Tools (with Olivia Weng)
Fall 2025	CSE 8A-6R , Human-Centered Process Oriented Intro to Programming
Spring 2025	CSE 29 , Systems Programming and Software Tools (with Edwin Solares)
Winter 2025	CSE 29 , Systems Programming and Software Tools
Spring 2025	CSE 190 , Working with Large Code Bases (with Anshul Shah)
Fall 2024	CSE 8A , Intro to Programming and Computational Problem-Solving I (with Sorin Lerner)
Fall 2024	DSC 207R , Python for Data Science
Spring 2024	CSE 29 , Systems Programming and Software Tools (with Aaron Schulman)
Fall 2023	CSE 11 , Intro to Programming and Computational Problem-Solving: Accelerated Pace
Fall 2023	DSC 207R , Python for Data Science
Spring 2023	CSE 190 , Working with Large Code Bases (with Anshul Shah, Jerry Yu, and Thanh Tong)
Spring 2023	CSE 291 , Introduction to Computing Education Research
Winter 2023	CSE 30 , Introduction to Computer Systems
Fall 2022	CSE 8A , Intro to Programming and Computational Problem-Solving I (with Sorin Lerner)
Fall 2022	DSC 207R , Python for Data Science
Spring 2022	CSE 15L , Software Tools and Techniques Laboratory (with Onat Gungor)
Spring 2022	CSE 8A , Intro to Programming and Computational Problem-Solving I (with Mai ElSherief)
Spring 2021	CSE 3 , Beauty and Joy of Computing
Winter 2021	CSE 291/190 , Intro to Computing Education Research (grad. section 291 with undergrad. section 190)
Fall 2020	CSE 8A , Intro to Programming and Computational Problem-Solving I (with Sorin Lerner)
Summer 2020	EDS 124BR , Teaching Computational Thinking for Everyone
Spring 2020	CSE 8B , Intro to Programming and Computational Problem-Solving II (with Greg Miranda)
Winter 2020	CSE 8B , Intro to Programming and Computational Problem-Solving II (with Paul Cao)
Fall 2019	CSE 11 , Intro to Programming and Computational Problem-Solving: Accelerated Pace (with Niema Moshiri)

UNIVERSITY OF WISCONSIN-MADISON – INSTRUCTOR

- 2019 **CS 354**, Intro to Computer Systems (@ Epic)
- 2018 **CS 301**, Intro to Data Programming using Python (with Tyler Caraza-Harter)
- 2018 **CS 354**, Intro to Computer Systems (@ Epic)
- 2017 **CS 537**, Intro to Operating Systems (@ Epic)
- 2017 **CS 537**, Intro to Operating Systems
- 2016 **CS 368**, Learning Modern C++
- 2016 **CS 302**, Intro to Programming in Java
- 2016 **CS 354**, Machine Organization and Programming (with Ganesh Kumar Velu Rajendran)
- 2015 **CS 402**, Teaching Computer Science to K-12 students

Note: Epic is a healthcare software company headquartered in Madison, WI.

UNIVERSITY OF WISCONSIN-MADISON – TEACHING ASSISTANT

- 2014 **CS 302**, Intro to Programming in Java
- 2014 **CS 367**, Intro to Data Structures in Java

COLLEGE OF ENGINEERING GUINDY (CEG), ANNA UNIVERSITY, CHENNAI – VISITING FACULTY

- 2018 **Learning Modern C++**
- 2018 **Unix Internals**
- 2018 **Cracking the Coding Interview**

COLLEGE OF ENGINEERING GUINDY (CEG), ANNA UNIVERSITY, CHENNAI – GUEST INSTRUCTOR

- 2016 **Intro to Data Structures in C**

Mentoring

CURRENT STUDENTS AT UC SAN DIEGO

PhD Students (co-advised with Leo Porter and William G. Griswold unless noted)

- 2026 – **Hailey Li**, PhD student, co-advisor
- 2026 – **Karen Xiao**, PhD student, co-advisor
- 2025 – **Alex Chao**, PhD student, primary advisor
- 2025 – **Annapurna Vadaparty**, PhD committee member
- 2024 – **Audria Saravia-Montalvo**, PhD student, primary advisor
- 2024 – **Francis Geng**, PhD student, co-advisor
- 2021 – **Ismael Villegas Molina**, PhD student, primary advisor

Master's Students

- 2023 – **Elena Tomson**, MS student

Undergraduate Students

- 2025 – **Kyla Ma**, Undergraduate student
- 2025 – **Mia Chen**, Undergraduate student
- 2025 – **Yuan-Kai (Kevin) Yang**, Undergraduate student
- 2025 – **Shivani Sridar**, Undergraduate student
- 2024 – **Nawab Mulla**, Undergraduate student

ALUMNI – UC SAN DIEGO

PhD Students

- 2021 – 2026 **Anshul Shah**, Primary advisor; Postdoc @ Stanford University
- 2021 – 2025 **Emma Hogan**, Co-advised; Professor @ Bard College

Master's Students

- 2025 – 2026 **Andrew (Andy) Smithwick**, MS thesis; AI/Data Science @ Edwards Lifesciences
- 2023 – 2025 **Thomas Rexin**, MS thesis; PhD in CS Education @ North Carolina State University
- 2021 – 2023 **Hayden McTavish**, Co-advised with Leo Porter and William G. Griswold; PhD @ Duke University
- 2022 – 2023 **Sunwoo Kim**, Co-advised with Niema Moshiri and Mia Minnes
- 2021 **Prajwal Anand**, First employment @ Experian

Undergraduate Students

- 2022 – 2026 **Anya Chernova**, MS in CS @ Stanford University
- 2022 – 2026 **Gonzalo Allen-Perez**
- 2025 – 2026 **Ethan Perez**
- 2025 – 2026 **Marlyn Arque Rupa**
- 2025 – 2026 **Adrian Nazzal**
- 2022 – 2025 **Ginger Smith**, Engineering & Public Policy PhD student @ CMU
- 2024 – 2025 **Josue Martinez**
- 2023 – 2024 **Fatimah Alhumrani**
- 2021 – 2024 **Mrinal Sharma**, First employment @ Visa
- 2021 – 2024 **John Driscoll**, Co-advised with Leo Porter and William G. Griswold
- 2021 – 2024 **Alexandra Michael**, PhD in Computer Science @ University of Washington
- 2022 – 2024 **Ruoxuan (Hero) Li**, MS @ Columbia University
- 2022 – 2024 **Zimo Peng**
- 2019 – 2023 **Elias Fang**
- 2020 – 2023 **Vardhan Agarwal**, First employment @ Amazon
- 2022 – 2023 **Michael Granado**, MS @ Stanford University
- 2020 – 2023 **Yada Chuengsatiansup**, First employment @ Apple
- 2021 – 2023 **Sharad Venkateshwaran**, First employment @ SambaNova

2019 – 2022 **Jessica Lam**, First employment @ Meta
 2021 – 2022 **Lavanya Satyan**, First employment @ Meta
 2020 – 2021 **Anne Xu**, First employment @ Goldman Sachs
 2020 – 2021 **Carmen Nayeli Guzman**, PhD @ UCLA
 2020 – 2021 **Divyam Rana**
 2021 **Elise Kim**
 2020 – 2021 **Dustin Lin**
 2020 – 2021 **Ana Selvaraj**, MS @ Stanford University
 2020 – 2021 **Amita Stowitts**, ERSP
 2020 – 2021 **Angelina Le**, ERSP
 2020 – 2021 **Melissa Ignacio**, ERSP
 2020 – 2021 **Ronaldo Garcia-Hernandez**, ERSP

 2020 – 2021 **Ganesh Susarla**
 2019 – 2021 **Derek Hwang**
 2019 – 2021 **Yuzi Lyu**
 2020 – 2021 **Dhruv Sood**
 2020 – 2021 **Keshab Agarwal**
 2020 **Navina Mahesh**
 2020 **Shungo Najima**, Now @ Cornell University
 2019 – 2020 **Dekun (William) Ma**, Now @ New York University
 2019 – 2020 **Viren Abhyankar**
 2019 – 2020 **Savera Soin**

ALUMNI – UNIVERSITY OF WISCONSIN-MADISON

Master's Students

2018 – 2019 **Varun Naik**, Now @ Google

Undergraduate Students

2019 – 2020 **Pan Gu**, PhD in Biomedical Engineering @ Johns Hopkins
 2019 **Alisa Zhang**, Now @ University of Michigan
 2018 – 2019 **Nikhil Kumar**
 2018 – 2019 **Houqi Li**
 2018 – 2019 **Virat Singh**

MENTEES AT CISCO

2012 **Suganya**, Software Trainee Engineer
 2012 **Malarvizhi Ramprasad**, Software Engineer

Service

DEPARTMENTAL AND UNIVERSITY SERVICE (UC SAN DIEGO)

- 2026 – **Faculty Advisor**, CSE Tutor Program
- 2025 – 2026 **Member**, CSE AI-aware Curriculum Committee
- 2022 – **Faculty Lead**, CSE 8A/8B/11 Working Group
- 2022 – **Faculty Advisor**, CS Foreach Student Organization
- 2019 – 2022 **Member**, CSE 8A/8B/11 Working Group
- 2019 – 2023 **Member**, CSE Undergraduate Committee (UGCOM)
- 2019 – **Member**, Center for Advancing Mathematics, Science, and Engineering Education
- 2019 – **Faculty Representative**, TA Language Certification

- 2022 **Faculty Volunteer**, Transfer students panel on research
- 2021 **Faculty Volunteer**, International Parent and Family Orientation
- 2020 **Reviewer**, Early Research Scholars Program (ERSP) applications
- 2020 **Faculty Volunteer**, Live coding demo, CSTA General Body Meeting (GBM)
- 2020 **Faculty Representative**, Panel on CS Education Research, CSForeach GBM
- 2020 **Faculty Representative**, Panel for Parents of International Students
- 2020 **Faculty Representative**, oSTEM General Body Meeting

- 2019 **Presenter**, Two mock CSE lectures, UCSD Admissions Showcase
- 2019 **Presenter**, Mock virtual lecture, UCSD Triton Day
- 2019 **Faculty Judge**, CSE Summer Internship Symposium
- 2019 **Faculty Representative**, Warren College move-in week
- 2019 **Faculty Representative**, New Student Welcome Convocation, RIMAC

PROFESSIONAL SERVICE

- 2020 – **Program Committee Member**, ICER
- 2018 – **Program Committee Member**, SIGCSE
- 2020 – **Program Committee Member**, ITiCSE
- 2017, 2018 **Program Committee Member**, SIGITE
- 2020 – **Session Chair**, ICER
- 2020 – **Session Chair**, SIGCSE
- 2022, 2023, 2024 **Meta Reviewer**, SIGCSE
- 2021 **Reviewer**, NSF Panel for Improving Undergraduate STEM Education (IUSE)

COMMUNITY SERVICE & OUTREACH

- 2019 – 2020 **ExploreCSR Workshop for Community College Students**, UC San Diego, co-led with Christine Alvarado, funded by Google
- 2019 **Mobile App Development Workshop**, Carson Gulley Center, UW-Madison
- 2018 **Python (Turtle Graphics) Workshop**, Goodman Community Center, UW-Madison
- 2018 **Scratch Programming**, Wisconsin Science Festival
- 2018 **Mobile App Development Workshop**, UW-CS
- 2018 **Mobile App Development Workshop**, Liz Waters, UW-Madison
- 2016 **Grand Parents University (GPU)**, UW-CS
- 2016 **Mobile App Development Workshop**, College Library, UW-Madison
- 2015 **Scratch Programming**, Wisconsin Science Festival
- 2014 **Scratch Programming (Service Learning Course)**, Randall Elementary
- 2014 **Scratch Programming (Service Learning Course)**, Crestwood Elementary