

Ayaan M. Kazerouni

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RESEARCH INTERESTS

I am broadly interested in **computing education**, **software testing**, and **software engineering**.

EDUCATION

Ph.D. Computer Science 2015–2020
Virginia Tech

- Advisors: Dr. Clifford Shaffer and Dr. Stephen Edwards
- Dissertation: Measuring the Software Development Process to Enable Formative Assessments

B.S. Computer Science 2011–2015
University of West Georgia

- Research mentor: Dr. Lewis Baumstark

EMPLOYMENT

Assistant Professor, Computer Science and Software Engineering September 2020–present
California Polytechnic State University, San Luis Obispo, CA

Summer Adjunct Faculty, Computer Science May 2020–August 2020
Virginia Tech, Blacksburg, VA

PhD Candidate August 2015–April 2020
Virginia Tech, Blacksburg, VA

Front-End Software Development Intern June 2017–August 2017
Zappos.com, Las Vegas, NV

TEACHING

CSC 123 Introduction to Community-Action Computing Fall 2022, 2023
California Polytechnic State University

CSC 203 Project-based Object-oriented Programming and Design Every Fall and Winter
California Polytechnic State University

CSC 305 Individual Software Design and Development Spring 2023, 2024
California Polytechnic State University

CSC 307 Introduction to Software Engineering Winter 2021
California Polytechnic State University

CSC 313 Teaching Computing Every Spring quarter
California Polytechnic State University

CSC 513 Computing Education Research and Practice (Graduate Course) Winter 2021, 2023
California Polytechnic State University

CSC 590 Thesis Seminar Winter 2023
California Polytechnic State University

CS 3114 Data Structures & Algorithms Summer 2018, 2019, 2020
Virginia Tech

CS 3114 Data Structures & Algorithms (Teaching Assistant) Fall 2015–Spring 2016
Virginia Tech

PEER-REVIEWED PUBLICATIONS

* indicates a student author.

Journal papers

W. Fuchs*, A. McDonald, A. Gautam, **A. M. Kazerouni**. “Recommendations for Improving End-User Programming Education: A Case Study with Undergraduate Chemistry Students”. *ACS Journal of Chemical Education (J Chem Ed)*, June 2024.

A. Shin*, **A. M. Kazerouni**. “A Model of How Students Engineer Test Cases With Feedback”. *ACM Transactions on Computing Education (TOCE)*, October 2023.

A. M. Kazerouni, J. C. Davis, A. Basak, C. A. Shaffer, F. Servant, S. H. Edwards. “Fast and Accurate Incremental Feedback for Students’ Software Tests Using Selective Mutation Analysis”. *Journal of Systems and Software (JSS)*, January 2021.

Conference papers

K. Wortman, A. Gautam, S. Hug, P. Salvador Inventado, **A. M. Kazerouni**, J. Lehr, K. Sood, Z. Wood. “Reflecting on Practices to Integrate Socially Responsible Computing in Introductory Computer Science Courses (to appear)”. *ACM Technical Symposium on Computer Science Education (SIGCSE)*, March 2024.

D. M. Krum, Z. Wood, E. Kang, **A. M. Kazerouni**, J. L. Lehr, S. Hug, P. S. B. Inventado, F. Tang, I. Yoon, A. Kulkarni, Y. Sun, M. Beheshti, A. Gautam, A. Hubbard Cheuoua, S. Hooshmand, K. A. Wortman. “Socially Responsible Computing: Promoting Latinx Student Retention Via Community Engagement in Early Computer Science Courses”. *ASEE Annual Conference and Exposition (ASEE)*, June 2024.

A. M. Kazerouni, J. Lehr, Z. Wood. “Community Action Computing: A Data-centric CS0 Course”. *ACM Technical Symposium on Computer Science Education (SIGCSE)*, March 2024.

J. Lee*, **A. M. Kazerouni**, C. Siu, T. Migler. “Exploring the Impact of Cognitive Awareness Scaffolding for Debugging in an Introductory Computer Science Class”. *ACM Technical Symposium on Computer Science Education (SIGCSE)*, March 2023.

A. Doebling*, **A. M. Kazerouni**. “Patterns of Academic Help-Seeking in Undergraduate Computing Students”. *Koli Calling Conference on Computing Education Research (Koli Calling)*, November 2021.

C. A. Shaffer, **A. M. Kazerouni**. “The Impact of Programming Project Milestones on Procrastination, Project Outcomes, and Course Outcomes: A Quasi-Experimental Study in a Third-Year Data Structures Course”. *ACM Technical Symposium on Computer Science Education (SIGCSE)*, March 2021.

R. S. Mansur, **A. M. Kazerouni**, S. H. Edwards, C. A. Shaffer. “Exploring the Bug Investigation Techniques of Intermediate Student Programmers”. *Koli Calling Conference on Computing Education Research (Koli Calling)*, November 2020.

T. Price, D. Hovemeyer, K. Rivers, A. C. Bart, G. Gao, **A. M. Kazerouni**, B. Becker, A. Petersen, L. Gusukuma, S. H. Edwards, D. Babcock. “ProgSnap2: A Flexible Format for Programming Process Data”. *ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE)*, July 2020.

J. C. Davis, D. Moyer, **A. M. Kazerouni**, D. Lee. “Testing Regex Generalizability And Its Implications: A Large-Scale Many-Language Measurement Study”. *IEEE/ACM International Conference on Automated Software Engineering (ASE)*, November 2019.

S. H. Edwards, Krishnan P. Murali, **A. M. Kazerouni**. “The Relationship Between Practicing Short Programming Exercises and Exam Performance”. *ACM Global Computing Education Conference (CompEd)*, May 2019.

A. M. Kazerouni, C. A. Shaffer, S. H. Edwards. “Assessing Incremental Testing Practices and Their Impact on Project Outcomes”. *ACM Technical Symposium on Computer Science Education (SIGCSE)*, February 2019. **2nd Best Research Paper**.

A. M. Kazerouni, C. A. Shaffer, S. H. Edwards. “Quantifying Incremental Development Practices and Their Relationship to Procrastination”. *ACM Conference on International Computing Education Research (ICER)*, August 2017.

A. M. Kazerouni, C. A. Shaffer, T. S. Hall, S. H. Edwards. “DevEventTracker: Tracking Development Events to Assess Incremental Development and Procrastination”. *ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE)*, July 2017.

Abstracts and posters

A. M. Kazerouni. “Toward Continuous Assessment of the Programming Process”. *ACM Conference on International Computing Education Research - Doctoral Consortium (ICER)*, August 2019.

A. M. Kazerouni, R. S. Mansur, S. H. Edwards, C. A. Shaffer. “Student Debugging Practices and Their Relationships with Project Outcomes”. *ACM Technical Symposium on Computer Science Education — Poster (SIGCSE)*, February 2019.

A. M. Kazerouni. “Toward Continuous Assessment of the Programming Process (Abstract Only)”. *ACM Technical Symposium on Computer Science Education - Student Research Competition (SIGCSE)*, **1st Place**.

GRANT PROPOSALS

External

Z. Wood, **A. M. Kazerouni**, J. Lehr, M. Beheshti, S. Hooshmand, P. S. Inventado, K. Sood, K. Wortman, E. E. Kang, D. Krum, Y. Sun, F. Tang, I. Yoon, A. Kulkarni, A. Gautam. “Collaborative Research: BPC-A: Socially Responsible Computing: Promoting Latinx Student Retention Via Community Engagement in Early CS Courses”. 2022. (Total amount: \$1.8M, Cal Poly share: \$513K).

Internal

* indicates a student author.

A. M. Kazerouni, J. B. Clements. “SURP: A Comparative Analysis of Software Test Adequacy Criteria”. 2024. (2 funded undergraduate students).

A. M. Kazerouni, T. Migler. “Teacher-Scholar Mini Grant: A Graph-theoretic Analysis of Peer Collaboration Networks in Com-

puting Classrooms. Teacher-Scholar Mini-Grant Program”. 2024. (unfunded).

A. Shin*, A. M. Kazerouni. “Baker Koob Award: A Cost Effective Way of Measuring Software Test Success”. 2022. (Amount: \$1400).

A. M. Kazerouni. “SURP: Computer-supported Programmer Cognition”. 2022. (1 funded undergraduate student).

HONORS AND AWARDS

Don and Paula Heye Annual Award for Outstanding Club Advisor (Hack4Impact Cal Poly) <i>College of Engineering, Cal Poly</i>	2024
Graduate Student Service Award <i>Department of Computer Science, Virginia Tech</i>	2020
2nd Best Paper Award, Research Track <i>ACM SIGCSE Technical Symposium</i>	2019
1st Place in the SIGCSE Student Research Competition <i>ACM SIGCSE Technical Symposium</i>	2018
2nd Place in the College of Math and Science Research Day <i>University of West Georgia</i>	2015
Outstanding Honors Sophomore, Junior <i>University of West Georgia</i>	2013, 2014

GRADUATE ADVISING

Master’s students

Noah Ravetch <i>Networks of Peer-to-Peer Help-Seeking.</i>	expected September 2024
Saurav Gupta <i>A Comparative Study of the NPM, PyPI, Maven, and RubyGems Open-source Communities.</i>	June 2024
Austin Shin <i>Examining Introductory Computer Science Student Cognition When Testing Software Under Different Test Adequacy Criteria.</i>	Sep 2022
Will Fuchs <i>Evaluating and Improving Domain-Specific Programming Education: A Case Study with Cal Poly Chemistry Courses.</i>	Jun 2022
August Doebling <i>Patterns Of Academic Help-Seeking In Undergraduate Computing Students.</i>	Mar 2022
Kevin Yoo <i>A Study of Non-computing Majors’ Growth Mindset, Self-efficacy and Perceived CS Relevance in CS1.</i>	Sep 2021

SERVICE

External service

Program Committee <i>International Computing Education Research Conference (ICER)</i>	2022–present
Manuscript reviewer <i>Computer Science Education, Taylor & Francis</i>	2024
Senior Program Committee <i>SIGCSE Technical Symposium</i>	2022–present
Manuscript Reviewer <i>Transactions on Computing Education (TOCE)</i>	2022–present
Program Committee <i>Conference on Innovation and Technology in Computer Science Education (ITiCSE)</i>	2020, 2022–present
Artefact Evaluation Program Committee <i>Foundations of Software Engineering Conference (FSE)</i>	2020–2022
Artefact Evaluation Program Committee <i>Automated Software Engineering Conference (ASE)</i>	2021, 2022
Demonstrations Track Program Committee <i>International Conference on Software Engineering (ICSE)</i>	2021
Program Committee <i>SIGCSE Technical Symposium</i>	2019–2021
Manuscript Reviewer <i>ASEE Computers in Education Journal</i>	2020

Institutional Service

CSSE tutoring centre advisor <i>California Polytechnic State University</i>	2021–present
Club advisor: Hack4Impact <i>California Polytechnic State University</i>	2021–present
CSSE Lecturer Search Committee Member <i>California Polytechnic State University</i>	2024
CSSE Tenure-track Search Committee Member <i>California Polytechnic State University</i>	2021
Working Group Member <i>CSSPLICE Programming Snapshot Data Working Group</i>	2018–present
President, Vice President, Treasurer/Cofounder <i>CS Graduate Student Council, Virginia Tech</i>	2017–2020