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 Sympoisum 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 Resonsible 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. 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

Superb Reviewer Award 2024
Koli Calling Conference on Computing Education Research

Don and Paula Heye Annual Award for Outstanding Club Advisor (Hack4Impact Cal Poly) 2024
College of Engineering, Cal Poly

Graduate Student Service Award 2020
Department of Computer Science, Virginia Tech

2nd Best Paper Award, Research Track 2019
ACM SIGCSE Technical Symposium

1st Place in the SIGCSE Student Research Competition 2018
ACM SIGCSE Technical Symposium

2nd Place in the College of Math and Science Research Day 2015
University of West Georgia

Outstanding Honors Sophomore, Junior 2013, 2014
University of West Georgia

GRADUATE ADVISING

Master's students

Noah Ravetch *Networks of Peer-to-Peer Help-Seeking.* expected September 2024

Saurav Gupta *A Comparative Study of the NPM, PyPI, Maven, and RubyGems Open-source Communities.* June 2024

Austin Shin *Examining Introductory Computer Science Student Cognition When Testing Software Under Different Test Adequacy Criteria.* Sep 2022

Will Fuchs *Evaluating and Improving Domain-Specific Programming Education: A Case Study with Cal Poly Chemistry Courses.* Jun 2022

August Doebling *Patterns Of Academic Help-Seeking In Undergraduate Computing Students.* Mar 2022

Kevin Yoo *A Study of Non-computing Majors' Growth Mindset, Self-efficacy and Perceived CS Relevance in CS1.* Sep 2021

SERVICE

External service

Program Committee *International Computing Education Research Conference (ICER)* 2022–present

Manuscript reviewer *Computer Science Education,* Taylor & Franceis 2024

Senior Program Committee *SIGCSE Technical Symposium* 2022–present

Manuscript Reviewer *Transactions on Computing Education (TOCE)* 2022–present

Program Committee *Conference on Innovation and Technology in Computer Science Education (ITiCSE)* 2020, 2022–present

Artefact Evaluation Program Committee *Foundations of Software Engineering Conference (FSE)* 2020–2022

Artefact Evaluation Program Committee *Automated Software Engineering Conference (ASE)* 2021, 2022

Demonstrations Track Program Committee *International Conference on Software Engineering (ICSE)* 2021

Program Committee *SIGCSE Technical Symposium* 2019–2021

Manuscript Reviewer *ASEE Computers in Education Journal* 2020

Institutional Service

CSSE tutoring centre advisor *California Polytechnic State University* 2021–present

Club advisor: Hack4Impact *California Polytechnic State University* 2021–present

CSSE Lecturer Search Committee Member *California Polytechnic State University* 2024

CSSE Tenure-track Search Committee Member *California Polytechnic State University* 2021

Working Group Member *CSSPLICE Programming Snapshot Data Working Group* 2018–present

President, Vice President, Treasurer/Cofounder *CS Graduate Student Council, Virginia Tech* 2017–2020