

Michael Hilton

CONTACT INFORMATION	<p>Software and Societal Systems School of Computer Science Carnegie Mellon University</p> <p>mhilton@cmu.edu http://www.cs.cmu.edu/~mhilton</p>
RESEARCH INTERESTS	<p>My goal is to improve software engineering education. I do this by supporting teachers, doing research, and creating and sharing educational materials. My main research areas are flaky tests, continuous integration, software engineering at startups, and mob programming.</p>
APPOINTMENTS	<p>Carnegie Mellon University, Pittsburgh, PA USA 2022 - Present Associate Department Head for Education, 2025 - Present Teaching Professor, 2020 - 2025 Associate Teaching Professor, 2017 - 2020 Assistant Teaching Professor Software and Societal Systems (S3D) School of Computer Science (SCS)</p>
EDUCATION	<p>Oregon State University, Corvallis, OR USA Ph.D., Computer Science, June 2017</p> <ul style="list-style-type: none">• Advisor: Dr. Danny Dig• Area of Study: Software Engineering• Thesis Topic: <i>Understanding and Improving Agile Development Practices</i> <p>California Polytechnic State University, San Luis Obispo, CA USA M.S., Computer Science, March 2013</p> <ul style="list-style-type: none">• Advisor: Dr. David Janzen• Area of Study: Software Engineering• Thesis Topic: <i>Improving WebIDE through delightful design and gamification</i> <p>San Diego State University, San Diego, CA USA B.S., Computer Science, May 2002, <i>Cum Laude</i></p> <p>Grossmont Community College, El Cajon, CA USA A.S., May 1999</p>
AWARDS AND HONORS	<p>Spira Excellence in Teaching Award 2021 In recognition of major accomplishments and outstanding qualities and strengths in teaching and for excellence in the classroom.</p> <p>Wimmer Faculty Fellows 2020-21 Eberly Center for Teaching Excellence and Educational Innovation</p> <p>Facebook TAV award - 2019 Search-based inducement and repair of latent test flakiness Philip McMinn (University of Sheffield), Gregory M. Kapfhammer (Allegheny College), Michael Hilton (Carnegie Mellon University), and Owain Parry (University of Sheffield)</p> <p>ACM SIGSOFT Distinguished Paper Award Awarded to the top papers at a conference. Received at FSE 2017.</p> <p>ACM SIGSOFT Distinguished Paper Award Awarded to the top papers at a conference. Received at FSE 2016.</p> <p>J.L. Moore Doctoral Fellowship Awarded to Cal Poly CSC graduates who pursue Doctoral Studies in Computer Science. Received 2013,2014,2015</p>

TEACHING
EXPERIENCE

Carnegie Mellon University, Pittsburgh, PA USA

- Fall '25 - 17-200 Introduction to Software Construction
- Fall '25 - 15-890 Computer Science Pedagogy
- Fall '25 - 17-313 Foundations of Software Engineering
- Spring '25 - 17-313 Foundations of Software Engineering
- Spring '25 - 17-950 Crafting Software
- Fall '24 - 07-120 Introduction to Software Construction
- Fall '24 - 15-890 Computer Science Pedagogy
- Fall '24 - 17-313 Foundations of Software Engineering
- Spring '24 - 17-313 Foundations of Software Engineering
- Spring '24 - 17-950 Crafting Software
- Fall '23 - 07-120 Introduction to Software Construction
- Fall '23 - 15-890 Computer Science Pedagogy
- Summer '23 - 99-519 Collaborative Research through Projects
- Spring '23 - 17-313 Foundations of Software Engineering
- Spring '23 - 17-356 Software Engineering for Startups
- Fall '22 - 17-313 Foundations of Software Engineering
- Fall '22 - 17-623 Quality Assurance
- Spring '22 - 15-890 Computer Science Pedagogy
- Spring '22 - 17-356 Software Engineering for Startups
- Spring '22 - 17-413 Software Engineering Practicum
- Spring '22 - 17-950 Crafting Software
- Fall '21 - 17-313 Foundations of Software Engineering
- Fall '21 - 17-625 Design Patterns & API Design
- Spring '21 - 17-356 Software Engineering for Startups
- Spring '21 - 17-450/17-950 Crafting Software
- Fall '20 - 17-313 Foundations of Software Engineering
- Fall '20 - 17-400/700 Machine Learning and Data Science at Scale
- Spring '20 - 15-890 Computer Science Pedagogy
- Spring '20 - 17-356 Software Engineering for Startups
- Spring '20 - 17-413 Software Engineering Practicum
- Fall '19 - 17-313 Foundations in Software Engineering
- Fall '19 - 17-437 Webapps
- Spring '19 - 17-356 Software Engineering for Startups
- Spring '19 - 17-413 Software Engineering Practicum
- Spring '19 - 17-214: Principles of Software Construction: Objects, Design, and Concurrency
- Fall '18 - 15-890 CS Pedagogy
- Fall '18 - 17-313 Foundations in Software Engineering
- Spring '18 - 17-356 Software Engineering for Startups
- Spring '18 - 17-413 Software Engineering Practicum
- Fall '17 - 15-214: Principles of Software Construction: Objects, Design, and Concurrency

Oregon State University, Corvallis, OR USA

- Winter '16 - CS361: Software Engineering
- Fall '16 - CS/ECE507 - Graduate Seminar (Introduction to Grad School)

California Polytechnic State University, San Luis Obispo, CA USA

- Spring '13 - CSC/CPE 101 Fundamentals of Computer Science I

TALKS

Invited Talk - CSEE&T 2025 Conference on Software Engineering Education and Training (Apr 2025) The Promise and Peril of SE Education in the Age of AI

Invited Talk - FTW 2025 Flaky Tests Workshop (Apr 2025) Keynote Address

Invited Talk - University of Victoria (March 2024) Promoting Human Flourishing through Ethical Software Development

Invited Talk - Jubilee Conference (February 2023) Promoting Human Flourishing with Software and Systems

Invited Talk - Auden (January 2022) Mob Programming: Better Together?

Invited Talk - University of Illinois Urbana-Champaign Champaign (November 2021) Teaching Professorships as a career choice

Invited Talk - University of Victoria (March 2021) Promoting Human Flourishing through Ethical Software Development

Invited Talk - University of Victoria (November 2020) Promoting Human Flourishing through Ethical Software Development

Invited Talk - Grove City College (October 2019) Promoting Human Flourishing through Ethical Software Development

Invited Talk - Dicks Sporting Goods (November 2019) Promoting Human Flourishing through Ethical Software Development

Conference presentation - Abstractions (August 2019) Promoting Human Flourishing through Ethical Software Development

PUBLICATIONS
PROFESSIONAL
EXPERIENCE

Microsoft Research, Redmond, WA USA
Research Intern **May 2017 to August 2017**

- Studied how and why developers move between development teams

Steadfast Innovation, San Luis Obispo, CA USA
Mobile HTML5 developer **March 2013 to August 2013**

- Developed HTML5 mobile app with real-time shared drawing capabilities

Independent Contractor, San Luis Obispo, CA USA
Software Developer **August 2011 to March 2013**

- Worked remotely with Loan-management Software Company
- Developed applications to transition data using ASP.Net applications
- Worked closely with project manager to ensure correct transistion

Space and Naval Warfare Systems Center - Pacific, San Diego, CA USA
Software Engineer/Scientist **June 2002 to August 2011**

- **Team Lead White House Situation Room Upgrade Project**
 - Team lead for Server portion of White House Situation Room Upgrade Project.
 - Responsible for Server team development effort in ASP.Net using C#. Also responsible for scheduling, resource management, and interfacing with Client team.
 - Responsible for managing and mentoring new hires
- **Lead Software Engineer**
 - Lead Engineer for a Navy Sponsored Web Based Data Aggregation Project consisting of six Government and Contractor Engineers. Responsible for tasking engineering team, monitoring progress, and overseeing new features. Also, meeting with client, and helping them develop requirements for project.
 - Responsible for briefing VIPs, including US Navy Admirals.
 - Member of Cyber-Warfare Strategy Planning meeting, which was comprised of senior leadership and outstanding engineers.
- **Software Engineer**
 - Primary Software Engineer for two projects starting with developing a demo from a concept, lead engineer for lifetime of the development cycle, including transition period once project was finished and delivered
 - Developed Embedded Application running on Windows Mobile in embedded Visual Basic and embedded C++ deployed and used by USN and US Coast Guard.

EXTERNAL SERVICE	2024 -Present	Computing Research Association - Co-Chair
	2020 -Present	Computing Research Association - Education Committee Member
	2024	ICSE SEIP Committee
	2024	ICSE Student Research Competition Committee
	2024	ICSE Doctoral Symposium Committee
	2024	WMSEE Co-Organizer
	2023	ICSE Student Research Competition Committee
	2023	WMSEE Co-Creator and Co-Organizer
	2023	SPLASH-E Co-Organizer
	2022	ICSE Student Volunteer Co-Chair
	2021	CRE-E Outstanding Undergraduate Researcher Award Committee Co-Chair
	2020	CRE-E Outstanding Undergraduate Researcher Award Committee Co-Chair
	2020	International Conference on Automated Software Engineering Program Committee
	2019	Transactions on Software Engineering Journal Reviewer
	2019	Empirical Software Engineering Journal Reviewer
	2018	Transactions on Software Engineering Journal Reviewer
	2018	Empirical Software Engineering Journal Reviewer
	2018	2nd Workshop on Innovative Software Engineering Education (ISEE) Program Committee
	2018	SIGCSE Reviewer
	2018	Member of Program Committee, ISSTA 2018 Tool Demonstrations
	2018	Member of Program Committee, Artifact Evaluation Committee for ISSTA 2018 Artifacts
	2017, 2018	Member of Program Committee, Mining Software Repositories Challenge
	2017	Journal of Systems and Software
	2017	ACM Transactions on Software Engineering and Methodology (TOSEM)
	2017, 2016 and 2015	Video Chair at ACM's SPLASH (OOPSLA) conference
	2016	Student Volunteer at ACM/IEEE ICSE conference
	2013	Student Volunteer at ACM's SPLASH (OOPSLA) conference
INTERNAL SERVICE	2022-Present	Associate Department Head for Education
	2023-Present	Chair SCS Mark Stehlik Teaching Postdoc committee
	2021-Present	SCS Academic Advisor
	2018-Present	SE minor/concentration advisor
	2018-Present	SCS Undergraduate Review Committee (URC)
STUDENT MENTORING	Sophia Kolak (REU - Summer 2019 - REUSE) Understanding Robotics Testing	
	Lilly Mast (REU - Summer 2015 - Oregon State University) Code Completion Project	
	Eli Rademacher (REU - Summer 2015 - Oregon State University) Code Completion Project	
	Sean McDonald (REU - Summer 2014 - Oregon State University) TDD Visualization Project	
	Hugh McDonald (REU - Summer 2014 - Oregon State University) TDD Visualization Project	

Nicolas Nelson (REU - Summer 2014 - Oregon State University) TDD Visualization Project

Lucas David (REU - Summer 2012 - CalPoly) Improving WebIDE

Vanessa Forney (REU - Summer 2012 - CalPoly) Improving WebIDE