

Michael Hilton

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RESEARCH INTERESTS Software engineering: continuous integration, computer science education agile development, mobile computing, next generation code editing, structured editors, mob programming, remote pair programming, web development

EDUCATION **Oregon State University**, Corvallis, OR USA
Ph.D., **Computer Science**, June 2017

- Advisor: **Dr. Danny Dig**
- Area of Study: **Software Engineering**
- Thesis Topic: *Understanding and Improving Agile Development Practices*

California Polytechnic State University, San Luis Obispo, CA USA
M.S., **Computer Science**, March 2013

- Advisor: **Dr. David Janzen**
- Area of Study: **Software Engineering**
- Thesis Topic: *Improving WebIDE through delightful design and gamification*

San Diego State University, San Diego, CA USA
B.S., **Computer Science**, May 2002, *Cum Laude*

Grossmont Community College, El Cajon, CA USA
A.S., May 1999

AWARDS AND HONORS **ACM SIGSOFT Distinguished Paper Award**
Awarded to the top papers at a conference. Received at FSE 2016.

J.L. Moore Doctoral Fellowship
Awarded to Cal Poly CSC graduates who pursue Doctoral Studies in Computer Science. Received 2013,2014,2015

PUBLICATIONS **Conferences**

1. Omar, C. Voysey, I. **Hilton, M.** Aldrich, J. Hammer, M. A. (2017). Hazelnut: A Bidirectionally Typed Structure Editor Calculus. In: *The 44th ACM SIGPLAN Symposium on Principles of Programming Languages. POPL 2017.* to appear. <https://arxiv.org/abs/1607.04180>.
2. **Hilton, M.** Nelson, N. McDonald, H. McDonald, S. Metoyer, R. Dig, D. (2016). TDDViz: Using Software Changes to Understand Conformance to Test Driven Development. In: *Proceedings of Agile Processes, in Software Engineering, and Extreme Programming: 17th International Conference. XP 2016.* <http://web.engr.oregonstate.edu/~hiltonm/publications/2016/TDDViz.pdf>.
3. **Hilton, M.** Tunnell, T. Huang, K. Marinov, D. Dig, D. (2016). Usage, costs, and benefits of continuous integration in open-source projects. In: *Proceedings of the 31st IEEE/ACM International Conference on Automated Software Engineering. ASE 2016.* <http://cope.eecs.oregonstate.edu/papers/OpenSourceCIUsage.pdf>.
4. Nguyen, A. T. **Hilton, M.** Codoban, M. Nguyen, H. A. Mast, L. Rademacher, E. Nguyen, T. N. Dig, D. (2016). API code recommendation using statistical learning from fine-grained changes. In: *Proceedings of the 2016 24th ACM SIGSOFT International Symposium on Foundations of Software Engineering. FSE 2016.* http://web.engr.oregonstate.edu/~hiltonm/publications/2016/APIRec_fse16.pdf.
5. **Hilton, M.** Christi, A. Dig, D. Moskal, M. Burckhardt, S. Tillmann, N. (2014). Refactoring local to cloud data types for mobile apps. In: *Proceedings of the 1st International Conference on Mobile Software Engineering and Systems. MOBILESoft 2014.* <http://cope.eecs.oregonstate.edu/papers/RefactorToCloud.pdf>.

6. Janzen, D. S. Clements, J. **Hilton, M.** (2013). An evaluation of interactive test-driven labs with WebIDE in CS0. In: *Proceedings of the 2013 International Conference on Software Engineering. ICSE 2013.* <http://dl.acm.org/citation.cfm?id=2486788.2486938&coll=DL&d1=GUIDE>.
7. **Hilton, M.** Janzen, D. S. (2012). On teaching arrays with test-driven learning in WebIDE. In: *Proceedings of the 17th ACM annual conference on Innovation and technology in computer science education. ITiCSE 2012.* <http://dl.acm.org/citation.cfm?id=2325296.2325322&coll=DL&d1=GUIDE>.

TEACHING
EXPERIENCE

Oregon State University, Corvallis, OR USA

TA Instructor

Winter Quarter, 2016

- CS/ECE507: Graduate Seminar (Introduction to Grad School)
- Class size: 12 students
- Course rated 5.4/6.0 (Dept Median 4.8), instructor rated 5.4/6.0 (Dept Median 4.9) in student evaluations

Instructor of Record

Spring Quarter, 2016

- CS361: Software Engineering
- Class size: 85 students
- Course rated 5.4/6.0 (Dept Median 4.8), instructor rated 5.1/6.0 (Dept Median 4.9) in student evaluations
- Managed 2 TAs
- Developed entire curriculum, including lessons, project and exams
- Course material online at:
<http://web.engr.oregonstate.edu/hiltonm/classes/cs361/>

California Polytechnic State University, San Luis Obispo, CA USA

Instructor of Record

Spring Quarter, 2013

- CSC/CPE 101 Fundamentals of Computer Science I
- Class size: 31 students
- Developed lessons, shared class project and exams
- Overall instructor rating 3.62/4 in student evaluations

TEACHING
INTERESTS

Software Engineering, Web Development, Mobile Development, Introduction to Programming, DevOps, Programming for non-CS majors, Building a startup

PROFESSIONAL
EXPERIENCE

Carnegie Mellon University, Pittsburgh, PA USA

Assistant Teaching Professor

Starting Fall 17

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 transition

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.

SERVICE

Conference

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| 2017 | Member of Program Committee, Mining Software Repositories Challenge |
| 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 |

Reviewing

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| 2017 | ACM Transactions on Software Engineering and Methodology (TOSEM) |
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Subreviewing

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| 2017 | International Conference on Software Engineering (ICSE) |
| 2014,2013 | IEEE/ACM International Conference on Automated Software Engineering (ASE 2016) |
| 2013 | AAAI Conference on Artificial Intelligence (AAAI-13) |

STUDENT
MENTORING

- 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