

Austin Z. Henley

353 Min H. Kao Bldg
1520 Middle Drive
Knoxville, TN 37996
865-974-8966
azh@utk.edu
www.austinhenley.com

Research Interests

Software Engineering, Human-Computer Interaction, Computing Education;
Developer Productivity, Developer Tools, Empirical Software Engineering

Education

- 2013–2018 **Ph.D. in Computer Science**, University of Memphis
Department of Computer Science Memphis, TN
Dissertation: *Human-Centric Tools for Navigating Code*
Advisor: Dr. Scott D. Fleming
- 2014–2016 **Graduate Cert. in Cognitive Science**, University of Memphis
Institute for Intelligent Systems Memphis, TN
- 2012–2013 **M.S. in Computer Science**, University of Memphis
Department of Computer Science Memphis, TN
- 2008–2011 **B.S. in Computer Science**, Austin Peay State University
Department of Computer Science & Information Technology Clarksville, TN

Academic Work Experience

- 08/2018–*Present* **Assistant Professor**, University of Tennessee
Department of Electrical Engineering & Computer Science Knoxville, TN
- 01/2013–07/2018 **Research Assistant**, University of Memphis
Department of Computer Science Memphis, TN
- 09/2016–12/2016 **Instructor**, University of Memphis
Department of Computer Science Memphis, TN
- 08/2012–12/2012 **Teaching Assistant**, University of Memphis
Department of Computer Science Memphis, TN

Industry Experience

- 06/2017–08/2017 **Research Intern**, IBM Research
Cognitive Computing Yorktown Heights, NY
Mentored by Dr. David Piorkowski

| | | |
|-----------------|--|-------------|
| 05/2016–08/2016 | Research Intern , Microsoft Research Tools for Software Engineers (TSE) Mentored by Dr. Maria Christakis & Dr. Kivanc Muslu | Redmond, WA |
| 06/2015–10/2015 | Research Intern , National Instruments Platform Framework | Austin, TX |
| 06/2014–08/2014 | Research Intern , National Instruments Platform Framework | Austin, TX |
| 05/2012–01/2013 | Software Engineer Intern , First Tennessee Bank Enterprise Productivity | Memphis, TN |

Awards

- 2018 Finalist, Morton Dissertation Award
- 2017 ★ **Honorable Mention Award, IEEE VL/HCC** ★
- 2017 Best Presentation, University of Memphis CS Research Day
- 2016 ★ **Distinguished Paper Award, ACM SIGSOFT FSE** ★
- 2016 NSF Travel Award for ACM FSE
- 2016 NSF Travel Award for IEEE ICSME
- 2016 ★ **Best Paper Award, IEEE VL/HCC** ★
- 2016 VL/HCC Graduate Consortium Travel Grant
- 2016 Best Presentation, University of Memphis CS Research Day
- 2015–2016 Associate Investigator, National Instruments Research Grant
- 2015 Runner-up, Best Presentation, University of Memphis CS Research Day
- 2014 VL/HCC Graduate Consortium Travel Grant
- 2014 Runner-up, Best Presentation, University of Memphis CS Research Day
- 2008–2011 TN Hope Scholarship

Funding

- 2019–2021 **National Science Foundation**, CRII: CHS: Overcoming Novice Programmers’ Misconceptions of Program Behavior. **Sole PI**. Award: **\$174,956**.

Full Refereed Publications

- [C9] **IEEE VL/HCC’18: Austin Z. Henley** and Scott D. Fleming. “CodeDeviant: Helping Programmers Detect Edits That Accidentally Alter Program Behavior.” In *Proc. IEEE Symp. Visual Languages and Human-Centric Computing*, Lisbon, Portugal, October 2018, 65–73. [29% acceptance rate]

- [C8] **ACM CHI'18: Austin Z. Henley**, Kivanc Muslu, Maria Christakis, Scott D. Fleming, and Christian Bird. “CFar: A Tool to Increase Communication, Productivity, and Review Quality in Modern Code Review.” In *Proc. 2018 ACM Conf. on Human Factors in Computing Systems*, Montreal, Canada, April 2018, 157:1–157:13. [25% acceptance rate]
- [C7] **IEEE VL/HCC'17: David Piorkowski**, Sean Penney, **Austin Z. Henley**, Marco Pistoia, Margaret Burnett, Omer Tripp, and Pietro Ferrara. “Foraging Goes Mobile: Foraging While Debugging on Mobile Devices.” In *Proc. IEEE Symp. Visual Languages and Human-Centric Computing*, Raleigh, North Carolina, October 2017, 9–17. **Honorable Mention Award**. [29% acceptance rate]
- [C6] **ACM CHI'17: Austin Z. Henley**, Scott D. Fleming, and Maria V. Luong. “Toward Principles for the Design of Navigation Affordances in Code Editors: An Empirical Investigation.” In *Proc. 2017 ACM Conf. on Human Factors in Computing Systems*, Denver, Colorado, May 2017, 5690–5702. [25% acceptance rate]
- [C5] **ACM FSE'16: David Piorkowski**, **Austin Z. Henley**, Tahmid Nabi, Scott D. Fleming, Christopher Scaffidi, and Margaret Burnett. “Foraging and Navigations, Fundamentally: A Developer Problem of Predicting Value/Cost.” In *Proc. ACM SIGSOFT Int'l Symp. on the Foundations of Software Engineering*, Seattle, Washington, November 2016, 97–108. **Distinguished Paper Award**. [27% acceptance rate]
- [C4] **IEEE ICSME'16: Alka Singh**, **Austin Z. Henley**, Scott D. Fleming, and Maria V. Luong. “An Empirical Evaluation of Models of Programmer Navigation.” In *Proc. IEEE Int'l Conf. on Software Maintenance and Evolution*, Raleigh, North Carolina, October 2016, 9–19. [29% acceptance rate]
- [C3] **IEEE VL/HCC'16: Austin Z. Henley** and Scott D. Fleming. “Yestercode: Improving Code-Change Support in Visual Dataflow Programming Environments.” In *Proc. IEEE Symp. Visual Languages and Human-Centric Computing*, Cambridge, United Kingdom, September 2016, 106–114. **Best Paper Award**. [33% acceptance rate]
- [C2] **IEEE ICSME'15: David Piorkowski**, Scott D. Fleming, Christopher Scaffidi, Margaret Burnett, Irwin Kwan, **Austin Z. Henley**, Jamie Macbeth, Charles Hill, and Amber Horvath. “To Fix or to Learn? How Production Bias Affects Developers Information Foraging during Debugging.” In *Proc. IEEE Int'l Conf. on Software Maintenance and Evolution*, Bremen, Germany, September/October 2015, 11–20. [22% acceptance rate]

- [C1] **ACM CHI'14: Austin Z. Henley** and Scott D. Fleming. “The Patchworks Code Editor: Toward Faster Navigation with Less Code Arranging and Fewer Navigation Mistakes.” In *Proc. 2014 ACM Conf. Human Factors in Computing Systems*, Toronto, Canada, April/May 2014, 2511–2520. [23% acceptance rate]

Short Refereed Publications

- [S3] **IEEE VL/HCC'16: Austin Z. Henley**. “Designing Affordances for Navigating Information Spaces in Code Editors.” In *Proc. IEEE Symp. Visual Languages and Human-Centric Computing*, Cambridge, United Kingdom, September 2016, 254–255. [Graduate Consortium]
- [S2] **IEEE VL/HCC'14: Austin Z. Henley**, Alka Singh, Scott D. Fleming, and Maria V. Luong. “Helping Programmers Navigate Code Faster with Patchworks: A Simulation Study.” In *Proc. IEEE Symp. Visual Languages and Human-Centric Computing*, Melbourne, Australia, July/August 2014, 77–80. [Short paper]
- [S1] **IEEE VL/HCC'14: Austin Z. Henley**. “Improving Source Code Navigation with Patchworks” In *Proc. IEEE Symp. Visual Languages and Human-Centric Computing*, Melbourne, Australia, July/August 2014, 187–188. [Graduate Consortium]

Invited Talks

“Human-Centric Tools for Software Maintenance”

- 3/5/2018 University of Delaware
2/28/2018 University of Tennessee
2/26/2018 Colorado State University
2/22/2018 Wayne State University
2/15/2018 University of Memphis
2/13/2018 New Jersey Institute of Technology
2/6/2018 University of Nebraska-Lincoln

Teaching

Instructor

- Spring 2019 Human-Centric Software Engineering (COSC 494/594)
26 undergraduates, 4 graduates
- Spring 2019 Machine Learning for Software Engineering (COSC 493)
4 undergraduates

- Spring 2019 CPU Emulation (COSC 493)
5 undergraduates
- Fall 2018 Software Engineering (COSC 340)
68 undergraduates, 4.7/5.0
- Fall 2016 Operating Systems (COMP 4270)
37 undergraduates, 4.5/5.0

Guest Lecturer

- Spring 2019 Junior Seminar (ECE 395)
- Fall 2018 Senior Design Practicum (ECE/COSC 402)
- Fall 2018 Senior Design Theory (ECE/COSC 401)
- Fall 2013, 2014 Information Retrieval and Web Search (COMP 7130)

Teaching Assistant

- Fall 2012 Discrete Structures (COMP 2700)

Students Supervised

Undergraduate Students

- 2019–present Thomas Keyes, undergraduate assistant
- 2019–present Ben Klein, undergraduate assistant
- 2018–present Adam Short, undergraduate assistant
- 2018–present Hayden Coffey, undergraduate assistant
- 2018 Joshua Dunkley, undergraduate assistant
- 2018 Kristina Bridgwater, undergraduate assistant
- 2016–2017 Kathryn Bridson, REU & MS
- 2013–2015 Maria Luong, REU & MS

Service

- 2019 Program Committee, Industry Track, IEEE ICSME
- 2019 Program Committee, Late Breaking Ideas, IEEE ICSME
- 2019 Program Committee, IEEE VL/HCC
- 2019 Peer Teaching Evaluation Committee
- 2019 Organizer, New Faculty Symposium, ACM ICSE
- 2019 Publicity & Social Media Chair, IEEE VL/HCC
- 2018 Judge, Student Research Competition, ACM ESEC/FSE
- 2018 Program Committee, ACM PLATEAU
- 2018 Mentor, Undergraduate Senior Capstone
- 2017 Publications Chair, IEEE VL/HCC

2015–2017 President, CS Graduate Student Association
2015–2016 CS Faculty Search Committee
2014–2016 Graduate Recruitment Fair
 2015 Mentor, National Society of Black Engineers Regional Conference
 2015 Student Volunteer, VL/HCC
2013, 2014 CS Open House for Middle/High School Students
2013 CS Graduate Program Review Committee

Reviewing

2019 ACM SIGCSE
2018, 2019 ACM CHI
2018, 2019 ACM TOCE
2017, 2018 IEEE VL/HCC, Showpieces/Posters

Sub-Reviewing

2018 IEEE/ACM ICPC
2014–2018 ACM CHI
2014–2018 IEEE VL/HCC
2014 ACM DIS