Austin Z. Henley

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

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

06/2019–08/2019 **Visiting Researcher,** Microsoft
AI Platform — Bellevue, WA
Hosted by Dr. Titus Barik

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) — Redmond, WA
Mentored by Dr. Maria Christakis & Dr. Kivanc Muslu

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

2020 ⋆ **Honorable Mention Award, ACM CHI** ⋆
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

2020–2023 **National Science Foundation**, CHS: SMALL: Collaborative Research: Adaptive Development Environments: Modeling and Supporting Cognitive Styles of Software Developers. Austin Henley (Lead PI) and Anita Sarma. Award: **$499,928**.

2019–2021 **National Science Foundation**, CRII: CHS: Overcoming Novice Programmers' Misconceptions of Program Behavior. Austin Henley (Lead PI). Award: **$174,956**.

Full Refereed Publications

[C11] **IEEE VL/HCC'20:** Marjan Adeli, Nicholas Nelson, Souti Chattopadhyay, Hayden Coffey, **Austin Z. Henley**, and Anita Sarma. "Supporting Code Comprehension via Annotations: Right Information at the Right Time and Place." In *Proc. IEEE Symp. Visual Languages and Human-Centric Computing*, Dunedin, New Zealand, August 2020, 1–10. [30% acceptance rate]

[C10] **ACM CHI'20:** Souti Chattopadhyay, **Austin Z. Henley**, Ishita Prasad, Anita Sarma, and Titus Barik. "What's Wrong with Computational Notebooks? Pain Points, Needs, and Design Opportunities." In *Proc. 2020 ACM Conf. on Human Factors in Computing Systems*, Honolulu, Hawaii, April 2020. **Honorable Mention Award.** [24% acceptance rate]

[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

[S4] **IEEE VL/HCC'19:** Adam C. Short and **Austin Z. Henley**. "Towards an Empirically-Based IDE: An Analysis of Code Size and Screen Space." In *Proc. IEEE Symp. Visual Languages and Human-Centric Computing*, Memphis, Tennessee, October 2019. [Short paper]

[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

Fall 2020 Software Engineering (COSC 340)

Spring 2020 Web Application Development (COSC 493)
3 undergraduates

Spring 2020 Programming Languages (COSC 365)
42 undergraduates, 4.7/5.0

Fall 2019 Software Engineering (COSC 340)
62 undergraduates, 3.9/5.0

Spring 2019 Human-Centric Software Engineering (COSC 494/594)
18 undergraduates, 10 graduates, 4.8/5.0

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

Graduate Students as Chair

2020–present Adam Tutko, PhD
- Tennessee Fellowship for Graduate Excellence

2020–present Dylan Lee, PhD

2020–present Julian Ball, MS

2019–present Ethan Hicks, MS

2019–2020 Alan Grant, MS
- Tennessee Fellowship for Graduate Excellence

Graduate Students as Committee Member

2019–2020 Andrey Karnauch, MS thesis

2019–2020 Dakota Sanders, MS thesis

2019–2020 Pengxiang Xu, MS

2019–2020 Tapajit Dey, PhD

2018–2019 Rayhan Hossain, MS

Undergraduate Students

2020–present Zackary Strickland

2020–present Aiden Rutter

2020–present Jonathan Bryan

2019–present Ben Klein

2020 Julian Ball

2019 Jacob Rutherford
- Tickle Graduate Fellowship (offered)

2019 Thomas Keyes

2018–2019 Hayden Coffey

2018–2019 Adam Short

2018 Joshua Dunkley

2018 Kristina Bridgwater

2016–2017 Kathyrn Bridson

2013–2015 Maria Luong

Service

2020 Panelist, Graduate Consortium, IEEE VL/HCC

2020 Posters Co-Chair, IEEE VL/HCC

2020 Judge, Student Research Competition, ACM/IEEE ICSE

2020 Program Committee, SEIS Track, ACM/IEEE ICSE
2019–2020 Faculty Advisor, Local ACM Chapter
2019–2020 CS101 Committee
2019 Panelist, Grant Proposal Review Panel, NSF
2019 Program Committee, Industry Track, IEEE ICSME
2019 Program Committee, Artifacts, 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, 2020 ACM SIGCSE
2019, 2020 JSS
2019 IEEE TSE
2019, 2020 IEEE Software
2019 ACM UIST
2018, 2019 ACM CHI
2018, 2019 ACM TOCE
2017, 2018 IEEE VL/HCC, Showpieces

Sub-Reviewing

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

2014 ACM DIS