

ADAM RULE

University of Wisconsin–Madison
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RESEARCH INTERESTS

Human-Computer Interaction, Health Informatics, Human-Centered Data Science,
Electronic Health Records, Cognitive Science, Computational Notebooks

EDUCATION

- 2013 - 2018 University of California, San Diego
PHD, *Cognitive Science*
Advisor: Jim Hollan
Committee: Gloria Mark, Brad Voytek, Bill Griswold, Philip Guo, Robert El-Kareh
- 2011 - 2013 University of Washington, Seattle
MS, *Human Centered Design & Engineering*
- 2008 - 2011 University of Illinois, Urbana-Champaign
BS, *Industrial Engineering*—HIGHEST HONORS

EMPLOYMENT

- 2021 - Pres. University of Wisconsin–Madison
Assistant Professor of Information Science
- 2019 - 2021 Oregon Health & Science University
Postdoctoral Scholar
Advisors: Michael Chiang, Michelle Hribar
Researching design and use of electronic health records
- 2013 - 2018 University of California San Diego, Design Lab
Research Assistant
Advisors: Jim Hollan
Researched design and use of computational notebooks and electronic health records
- Summer 2012 Amazon
UX Research Intern
Conducted usability studies of shopping interfaces for clothing and home goods
- Summer 2012 PATH
UX Research Intern
Evaluated usability of inventory software for medical equipment
- Summer 2011 Carnegie Mellon University, QoLT Center
Research Intern
Conducted research on the design of interfaces for controlling robot teams

Summer 2010 Intel Research
User Research Intern
Conducted research on the design of home assistive robot

AWARDS, HONORS

AWARDS

- 2018 Honorable Mention, CHI 2018 – top 5% of all submissions
- 2016 Outstanding Teaching Award, Cognitive Science Department, Winter 2016
- 2012 Honorable Mention, HRI 2012 – top 5% of all submissions
- 2012 Microsoft Design Expo – Best Presentation

FELLOWSHIPS

- 2019 - 2021 National Library of Medicine Postdoctoral Training Grant
- 2014 - 2017 National Library of Medicine Predoctoral Training Grant – 3 years tuition & stipend

CONFERENCE PUBLICATIONS

- C8 **Adam Rule**, Michael Chiang, Michelle Hribar. Medical Scribes Have a Variable Impact on Documentation Workflows. *Studies in Health Technology and Informatics (MedInfo)*, 2021
- C7 **Adam Rule**, Sarah Florig, Steven Bedrick, Vishnu Mohan, Jeffrey Gold, Michelle Hribar. Comparing Scribed and Non-scribed Outpatient Progress Notes. *In Proceedings of the American Medical Informatics Association Annual Meeting (AMIA)*, 2021
- C6 Michelle Hribar, Haley Dusek, Isaac Goldstein, **Adam Rule**, Michael Chiang. Methods for Large-Scale Quantitative Analysis of Scribe Impacts on Clinical Documentation. *In Proceedings of the American Medical Informatics Association Annual Meeting (AMIA)*, 2020
- C5 **Adam Rule**, Isaac Goldstein, Michelle Hribar, Michael Chiang. Clinical Documentation as End-User Programming. *In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, 2020
- C4 **Adam Rule**, Aurélien Tabard, Jim Hollan. Exploration and Explanation in Computational Notebooks. *In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, 2018 – **HONORABLE MENTION, TOP 5% OF SUBMISSIONS**
- C3 **Adam Rule**, Steven Rick, Michael Chiu, Phillip Rios, Shazia Ashfaq, Alan Calvitti, Wesley Chan, Nadir Weibel, Zia Agha. Validating free-text order entry for a note-centric EHR. *In Proceedings of the American Medical Informatics Association Annual Meeting (AMIA)*, 2015
- C2 **Adam Rule**, Aurélien Tabard, Karen Boyd, Jim Hollan. Restoring the Context of Interrupted Work with Desktop Thumbnails. *In Proceedings of the Cognitive Science Society Annual Meeting (CogSci)*, 2015
- C1 **Adam Rule**, Jodi Forlizzi. Designing interfaces for multi-user, multi-robot systems. *In Proceedings of the ACM Conference on Human Robot Interaction (HRI)*, 2012 – **HONORABLE MENTION, TOP 5% OF SUBMISSIONS**

JOURNAL PUBLICATIONS

- J9 Jimmy Chen, Michelle Hribar, Isaac Goldstein, **Adam Rule**, Wei-Chun Lin, Haley Dusek, Michael Chiang. Electronic health record note review in an outpatient specialty clinic: who is looking? *Journal of the American Medical Association Open (JAMIA Open)*, 2021
- J8 **Adam Rule**, Steven Bedrick, Michael Chiang, Michelle Hribar. Length and Redundancy of Outpatient Progress Notes Across a Decade at an Academic Medical Center. *JAMA Network Open*, 2021
- J7 Christine Sinsky, **Adam Rule**, Genna Cohen, Brian Arndt, Tait Shanafelt, Christopher Sharp, Sally Baxter, Ming Tai-Seale, Sherry Yan, You Chen, Julia Adler-Milstein, Michelle Hribar. Metrics for assessing physician activity using electronic health record log data. *Journal of the American Medical Association (JAMIA)*, 2020
- J6 Brad Henriksen, Isaac Goldstein, **Adam Rule**, Abigail Huang, Haley Dusek, Austin Igelman, Michael Chiang, Michelle Hribar. Electronic Health Records in Ophthalmology: Source and Method of Documentation. *American Journal of Ophthalmology*, 2020
- J5 **Adam Rule**, Michelle Hribar, Michael Chiang. Using Electronic Health Record Audit Logs to Study Clinical Activity: A Systematic Review of Aims, Measures, and Methods. *Journal of the American Medical Association (JAMIA)*, 2020
- J4 Michelle Hribar, **Adam Rule**, Abigail Huang, Haley Dusek, Isaac Goldstein, Bradley Henriksen, Wei-Chun Lin, Austin Igelman, Michael Chiang. Redundancy of Progress Notes for Serial Office Visits. *Ophthalmology*, 127(1), 2020
- J3 **Adam Rule**, Amanda Birmingham, Cristal Zuniga, Ilkay Altintas, Shih-Cheng Huang, Rob Knight, Niema Moshiri, Mai H. Nguyen, Sara Brin Rosenthal, Fernando Pérez, Peter W. Rose. Ten Simple Rules for Writing and Sharing Computational Analyses in Jupyter Notebooks. *PLoS Computational Biology*, 15(7): e1007007, 2019
- J2 **Adam Rule**, Ian Drosos, Aurélien Tabard, Jim Hollan. Aiding Collaborative Reuse of Computational Notebooks with Annotated Cell Folding. *Proceedings of the ACM, Human-Computer Interaction*, 1(CSCW), 2018
- J1 **Adam Rule**, Aurélien Tabard, Jim Hollan. Using Visual Histories to Reconstruct the Mental Context of Suspended Activities. *Human-Computer Interaction*, 32(5-6), 2017

DOCTORAL CONSORTIUM, WORKSHOPS, POSTERS & ABSTRACTS

- A3 Alan Labrum, Kathryn Marxen-Simonson, Tosha Zaback, **Adam Rule**, John Boyer, Mitch Brinks. Six Feet of Separation: Physical Distancing Impacts on Blind and Low Vision During COVID-19 Pandemic. *Investigative Ophthalmology & Visual Science (ARVO)*, 2021
- A2 Michelle Hribar, Haley Dusek, Isaac Goldstein, **Adam Rule**, Michael Chiang. Documentation Composition and Efficiency During Scribed and Non-Scribed Ophthalmology Visits. *Investigative Ophthalmology & Visual Science (ARVO)*, 2020
- A1 Sarah Glass, **Adam Rule**, Michelle Hribar, Thomas Hwang, Michael Chiang. Electronic Health Records in Ophthalmology: Quantitative evaluation of progress

note utility for clinical decision-making. *Investigative Ophthalmology & Visual Science (ARVO)*, 2020

- W1 **Adam Rule**, Aurélien Tabard, Jim Hollan. Traces: A Flexible, Open Source Activity Tracker for Workplace Studies. *Workshop on the Quantified Workplace at the ACM Conference on Computer Supported Cooperative Work (CSCW)*, 2017
- P3 **Adam Rule**, Erin Gillespie, Nadir Weibel, Todd Pawlicki. Design Thinking in Radiation Oncology. *Human Factors and Ergonomics Society Healthcare Symposium*, 2016
- P2 **Adam Rule**, Aurélien Tabard, Jim Hollan. Thinking in 4D: Preserving and Sharing Mental Context Across Time. *In Proceedings of the ACM Conference on Computer Supported Cooperative Work and Social Computing Companion (CSCW)*, 2016
- P1 Karen Boyd, **Adam Rule**, Aurélien Tabard, Jim Hollan. Human Values in Tracking and Sharing Computer-Mediated Activity at Work. *In Proceedings of the ACM Conference on Computer Supported Cooperative Work and Social Computing Companion (CSCW)*, 2016
- D1 **Adam Rule**. Visualizing Computer Activity to Support the Resumption of Long-term Creative Work. *In Proceedings of the SIGCHI Conference on Creativity & Cognition*, 2015

DISSERTATION

- 2018 The Design and Use of Computational Notebooks
Adam Rule
Cognitive Science, UC San Diego

MENTORING & ADVISING

- 2019 - 2021 OREGON HEALTH & SCIENCE UNIVERSITY
Kyle Walters (MD)
Haley Dusek (MD)
Jimmy Chen (MD)
Michael Aaby (BS)
- 2013 - 2018 UNIVERSITY OF CALIFORNIA, SAN DIEGO
Azeem Ghumman (MS Thesis) — Software Engineer @ Zoon
Rizwan Ahmad (MS Thesis) — Sr. Software Engineer @ Notebowl
Jonas Kemper (MS) — Software Engineer @ McKinsey Dig. Labs
Kendall Youngstrom (BS Thesis) — UX Researcher @ Google
Ram Dixit (BS Thesis) — MS Student @ University of Texas, Houston
Karen Boyd (BS) — PhD Student @ University of Maryland
Adam Powers (BS) — Information Developer @ Tealium
Regina Cheng (BS) — PhD Student @ University of Washington
Nathan Hassanzadeh (BS)
Katya Noble (BS) — UX Design Intern @ Axos Bank
Allison Reiss (BS) — Software Engineer @ Kiran Analytics
Evan Schmitz (BS) — UX Researcher @ Microsoft

TEACHING EXPERIENCE

- Summer 2019 BMI 510 — Human Computer Interaction in Biomedicine
Mentored Teaching with Michelle Hribar and Michael Chiang, OHSU
- Spring 2018 COGS 10 — Cognitive Consequences of Technology
Teaching Assistant with Jim Hollan, UC San Diego
- Winter 2017 DSGN 1 — Design of Everyday Things
Teaching Assistant with Jim Hollan, UC San Diego
- Winter 2016 CSE170/COGS 120 — HCI Design - Outstanding Teaching Award
Teaching Assistant with Scott Klemmer, UC San Diego
HEAD TA OF 8 TEACHING ASSISTANTS
- Winter 2015 COGS 102b — Cognitive Ethnography
Teaching Assistant with Melanie McComsey, UC San Diego
- Spring 2014 COGS 102c — Cognitive Design Studio
Teaching Assistant with Jim Hollan, UC San Diego

SERVICE

REVIEWING

CHI (2016,19-21), CSCW (2019,21), IUI (2019), UIST (2020) AMIA (2015-16,19-20), JAMIA (2020), JAMIA Open (2020), JBI (2020), Ophthalmology (2019), Applied Clinical Informatics (2019,21)

OTHER SERVICE

- 2019 AMIA Student Paper Competition Committee
2019 EXITO Career Panel — Research Diversity program at Portland State University

INVITED TALKS

Composition of Clinical Documentation
Oregon Health & Science University, Casey Eye Institute, June 2019

The Design and Use of Computational Notebooks
University of Washington, Interactive Data Lab, Dec 2018
Oregon Health & Science University, Medical Informatics, Nov 2018

Field Methods in Human Computer Interaction
Guest Lecture, COGS 13 (Field Methods) UC San Diego, May 2018

Exploration and Explanation in Computational Notebooks
UC Berkeley, Data Science Institute, Dec 2017

Cognitive Science & Design
Guest Lecture, COGS 1 (Intro to Cognitive Science) UC San Diego, Nov 2016
Guest Lecture, COGS 1 (Intro to Cognitive Science) UC San Diego, Oct 2015