ADAM RULE

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Madison, WI 53706

RESEARCH INTERESTS

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

ACADEMIC POSITIONS

2021 - PRES.   University of Wisconsin–Madison
                 Assistant Professor of Information Science

2019 - 2021   Oregon Health & Science University
                 Postdoctoral Scholar of Medical Informatics and Clinical Epidemiology
                 Mentors: Michael Chiang, Michelle Hribar

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

AWARDS, HONORS

AWARDS
2021   Distinguished Paper Award Nominee, AMIA 2021 – Top 10 papers
2021   Best Paper, 2nd Place, MedInfo 2021
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

JOURNAL PUBLICATIONS

J11 Haley Dusek, Isaac Goldstein, **Adam Rule**, Michael Chiang, Michelle Hribar. Clinical Documentation During Scribed and Non-scribed Ophthalmology Office Visits. *Ophthalmology Science*, 2021

J10 **Adam Rule**, Michelle Hribar. Frequent but fragmented: use of note templates to document outpatient visits at an academic health center. *Journal of the American Medical Informatics Association (JAMIA)*, 2021

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 Informatics 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 Informatics 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 Informatics 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

CONFERENCE PUBLICATIONS

C8 **Adam Rule**, Sarah T Florig, Steven Bedrick, Vishnu Mohan, Jeffrey A Gold, Michelle R Hribar. Comparing Scribed and Non-scribed Outpatient Progress Notes. *Studies in Health Technology and Informatics (MedInfo)*, 2021
BEST PAPER, 2ND PLACE

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 Symposium (AMIA),* 2021. **DISTINGUISHED PAPER NOMINEE** (10 OF 84)

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 Symposium (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

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 @ Zoox
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

Instructor
Fall 2021   LIS 341 — Intro to Interaction Design
Fall 2021   LIS 615 — Systems Analysis and Project Management for Information Professionals

Teaching Assistant

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, 19-22), CSCW (2019, 21), IUI (2019), UIST (2020) AMIA (2015-16, 19-21), JAMIA (2020-21), JAMIA Open (2020), JBI (2020), Ophthalmology (2019), Applied Clinical Informatics (2019, 21), JAMA Network Open (2021)

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
UC San Diego, Ophthalmic Informatics Group, Jan 2022
University of Wisconsin-Madison, CIBM Seminar, Oct 2021
Oregon Health & Science University, Casey Eye Institute, Jun 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

OTHER EMPLOYMENT

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