Aarathi Prasad

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aprasad@skidmore.edu

EDUCATION

- *PhD,* Computer Science, 2016
  Dartmouth College, Hanover, NH
  Dissertation: Privacy-preserving Sharing Controls for Mobile Devices
- *MS,* Computer Science, 2012
  Dartmouth College, Hanover, NH
  Thesis: Exposing Privacy Concerns in mHealth data sharing
- *BTech,* Computer Science and Engineering, 2007
  National Institute of Technology, Calicut, India

EMPLOYMENT

- *Assistant Professor*, Skidmore College, Saratoga Springs, NY. 2017 - Present
- *Visiting Assistant Professor*, Amherst College, Amherst, MA. 2016 - 2017
- *Privacy Research Intern*, Intel Labs, Hillsboro, OR. 2014
- *Software Engineer*, Oracle Corporation, Hyderabad, India. 2007 - 2009

RESEARCH MENTORING

2 senior thesis, 24 undergraduate research assistants since starting at Skidmore College (28 total).

TEACHING

Computer Networks, Mobile Computing, Intro to Computer Organization, Intro to CS I, Intro to CS II (Data Structures)

FUNDING (awarded, † indicate undergraduates)

- *Skidmore College*, Summer 2022, Dexter Senft gift (5-week) with † Cassie Davidson and † Zander Chown.
- *Skidmore College*, Summer 2021, faculty-student collaborative research grant (10-week). "Design, implementation and pilot testing of ScreenSnooze v1.0" with † Zoe Beals.
- *Skidmore College*, Summer 2021, faculty-student collaborative research grant (10-week). "Secure sharing of COVID-19 health data" with † Zoe Bilodeau.
- *Skidmore College*, Summer 2020, faculty-student collaborative research grant (5-week). "User study to determine effectiveness of app usage tool" with † Zoe Beals.
- *Skidmore College*, Summer 2019, faculty-student collaborative research grant (10-week). "Understanding a Smart Device Usage & Sharing" with † Ha Linh Nguyen.
- *Skidmore College*, Startup Funding. 2017-2022.

PEER-REVIEWED ARTICLES IN PRINT († indicate undergraduates)

- **Aarathi Prasad**, † Aaliyah Lawrence, † Zoe Bilodeau and Sarah Sweeney. *Understanding student perceptions around mandatory use of smartphone apps for COVID-19. To appear as a short paper in proceedings of MobileHCI.* 2022.
- Christine Reilly and **Aarathi Prasad**. *Including Computer Systems Assignments in Introductory Programming Courses. IEEE Frontiers in Education Conference (FIE)*, pp. 1-5. 2021. doi: 10.1109/FIE49875.2021.9637341.
- Erica Wojcik and **Aarathi Prasad** and † Samantha Hutchinson and † Kyla Shen. *Children prefer to learn from smart devices, but do not trust them more than humans.* **Journal on Child-Computer Interaction.** pp 100406, September 2021. doi: 10.1016/j.ijcci.2021.100406
- **Aarathi Prasad**, Lucas LaFreniere, Vaasu Taneja and †Zoe Beals. *Addressing Problematic Smartphone Use with a Personalized, Goal-based Approach. Adjunct Proceedings of the 2021 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2021 ACM International Symposium on Wearable Computers*, pp 131–134. September 2021. doi: 10.1145/3460418.3479319
- †Veronica Sih and **Aarathi Prasad** *COVID-Labels: Explainable and Trustworthy Mechanisms for Rebuilding Businesses during the COVID-19 Pandemic. Presented at ACM CHI Towards Explainable and Trustworthy Autonomous Physical Systems Workshop.* May 2021. *not in print, but peer-reviewed and uploaded on website.
- **Aarathi Prasad** and † Asia Quinones. *Digital Overload Warnings - "The Right Amount of Shame"? In proceedings of Human-Computer Interaction. Human Values and Quality of Life. Lecture Notes in Computer Science*, vol 12183. Springer, Cham. July 2020. doi:10.1007/978-3-030-49065-2_9.
- **Aarathi Prasad**, † Matthew Clark, † Ha Linh Nguyen, † Ruben Ruiz and †Emily Xiao. *Analyzing privacy practices of existing mHealth apps. In Proceedings of the 13th International Joint Conference on Biomedical Engineering Systems and Technologies - Volume 5: HEALTHINF*, pp 563-570, February 2020. SciTePress. doi:10.5220/0009059605630570
- **Aarathi Prasad**, † Ruben Ruiz, and Timothy Stablein. *Understanding Parents' Concerns with Smart Device Usage in the Home. In Proceedings of HCI for Cybersecurity, Privacy and Trust. HCI International Conference 2019. Lecture Notes in Computer Science*, vol 11594. pp 176-190, July 2019. Springer, Cham. doi: 10.1007/978-3-030-22351-9_12.
- Tamara Peyton, **Aarathi Prasad**, Sa Liu, Joslenne Pena. *Teaching Human-Centered Design in CSE Programs. In Proceedings of the ACM Technical Symposium on Computer Science Education*, pp 1246-1247. February 2019. ACM Press. doi:10.1145/3287324.3293731
- **Aarathi Prasad**. *Using an Art Museum Field Trip to Spark Classroom Discussions about Mobile App Design. In Proceedings of the ACM Technical Symposium on Computer Science Education*, pp 1270-1270. February 2019. ACM Press. doi:10.1145/3287324.3293865
- **Aarathi Prasad**, † Bryan McQuade, Casey Schofield. *AR-based mobile applications for exposure therapy. In Proceedings of the HCI International Conference 2018 Poster Extended Abstracts*, pp 319-325. July 2018.
- †William Jang, † Adil Chhabra and **Aarathi Prasad**. *Enabling Multi-user Controls in Smart Home Devices. In Proceedings of the Workshop On IoT Security and Privacy (IoTS&P)*, pp 49-54. November 2017. ACM Press. doi:10.1145/3139937.3139941

- **Aarathi Prasad**, Xiaohui Liang and David Kotz. *SPICE: Secure Proximity-based Infrastructure for Close Encounters. In Proceedings of the Workshop On Mobile Crowdsensing Systems And Applications (CrowdSense)*, pp 56-61. November 2017. ACM Press. doi:10.1145/3139243.3139245
- **Aarathi Prasad** and David Kotz. *ENACT: Encounter-based Architecture for Contact Tracing. In Proceedings of the International Workshop on Physical Analytics (WPA)*, pp 37-42. June 2017. ACM Press. doi:10.1145/3092305.3092310
- **Aarathi Prasad**, Xiaohui Liang and David Kotz. *Poster: Balancing Disclosure and Utility of Personal Information. In Proceedings of the International Conference on Mobile Systems, Applications, and Services (MobiSys)*, pp 380-381. June 2014. ACM Press. doi: 10.1145/2594368.2601448.
- **Aarathi Prasad**, Ronald Peterson, Shrirang Mare, Jacob Sorber, Kolin Paul and David Kotz. *Provenance framework for mHealth. In Proceedings of the Workshop on Networked Healthcare Systems*, pp 1-6. January 2013. IEEE Computer Society Press. doi:10.1109/COMSNETS.2013.6465599
- **Aarathi Prasad**, Ronald Peterson, Jacob Sorber and David Kotz. *A Provenance Framework for mHealth.* **In Proceedings of the Workshop for Mobile Systems, Applications, and Services for Healthcare (mHealthSys) Poster Track**. November 2012. ACM Press. doi:10.1145/2396276.2396287
- **Aarathi Prasad**, Jacob Sorber, Timothy Stablein, Denise Anthony and David Kotz. *Understanding Sharing Preferences and Behavior for mHealth Devices. In Proceedings of the Workshop on Privacy in the Electronic Society (WPES)*, pp 117-128. October 2012. ACM Press. doi:10.1145/2381966.2381983
- Jacob Sorber, Minho Shin, Ronald Peterson, Cory Cornelius, Shrirang Mare, **Aarathi Prasad**, † Zachary Marois, †Emma Smithayer, David Kotz. *An Amulet for trustworthy wearable mHealth. In Proceedings of the Workshop on Mobile Computing Systems and Applications (HotMobile)*, pages 7:1-7:6, February 2012. ACM Press. DOI 10.1145/2162081.2162092.
- **Aarathi Prasad**, Jacob Sorber, Timothy Stablein, Denise Anthony and David Kotz. *Exposing privacy concerns in mHealth. In Proceedings of the USENIX Workshop on Health Security (HealthSec)*, August 2011. Position paper.
- **Aarathi Prasad** and David Kotz. *Can I access your Data? Privacy Management in mHealth. In Proceedings of the USENIX Workshop on Health Security (HealthSec)*, August 2010. Position paper.

BOOK CHAPTERS

- **Aarathi Prasad**, Jacob Sorber, Timothy Stablein, Denise Anthony and David Kotz. *Understanding User Privacy Preferences for mHealth Data Sharing. Mobile Health (mHealth): Multidisciplinary Verticals*, Chapter 32, Taylor & Francis (CRC Press), 2014.

PATENTS

- David Kotz, Ryan Halter, Cory Cornelius, Jacob Sorber, Minho Shin, Ronald Peterson, Shrirang Mare, **Aarathi Prasad**, Joseph Skinner, and Andrés Molina-Markham. Wearable computing device for secure control of physiological sensors and medical devices, with secure storage of medical records, and bioimpedance biometric. U.S. Patent 9,936,877, April 2018.

- David Kotz, Ryan Halter, Cory Cornelius, Jacob Sorber, Minho Shin, Ronald Peterson, Shrirang Mare, **Aarathi Prasad**, Joseph Skinner, and Andrés Molina-Markham. Wearable computing device for secure control of physiological sensors and medical devices, with secure storage of medical records, and bioimpedance biometric. **U.S. Patent 9,595,187**, March 2017.

SENIOR THESES (advisor)

- Zoe Beals. 2022. *Exploring Goal-based Approach for Problematic Smartphone Use.*
- Afia Semin. 2020. *Security Analysis and Implementation of Convex Hull Click Emoji.*

SENIOR THESES (committee member)

- Matt Clark. 2021. *Utilizing Expression Recognition Technology to Improve Virtual Learning Environments.*
- Ping Lin. 2019. *Semantic Machine Learning.*

FACULTY ADVISOR FOR CONFERENCE STUDENT POSTERS († indicate undergraduates)

- † Zoe Beals. *ScreenAware: an iOS App to Manage Problematic Smartphone Use* **Poster abstracts, Consortium for Computing Sciences in Colleges Northeastern Region conference**. `https://drive.google.com/file/d/11UXh0m8As0emrFE1ar31tUOqbDsfBvWT/view`
- † Afia Semin. *Convex Hull Click Emoji* **Poster abstracts, Consortium for Computing Sciences in Colleges Northeastern Region conference**. `http://ccscne.org/wp-content/uploads/2020/03/StudentPostersDocument-2020-Final.pdf`
- † Zoe Beals. *Applying Mindfulness Techniques to a Smartphone App to Manage Screen Time* **Poster abstracts, Consortium for Computing Sciences in Colleges Northeastern Region conference**. `http://ccscne.org/wp-content/uploads/2020/03/StudentPostersDocument-2020-Final.pdf`
- † Asia Quinones. *Are digital overload reminders making you anxious?* **Poster abstracts, Consortium for Computing Sciences in Colleges Northeastern Region conference**. `http://ccscne.org/wp-content/uploads/2018/09/`StudentPostersDocument-2019-Final.pdf
- † Matthew Clark, † Ha Linh Nguyen, † Ruben Ruiz, † Emily Ziyi Xiao. *What do your smartphone apps know about you?* **Poster abstracts, Consortium for Computing Sciences in Colleges Northeastern Region conference**. `http://ccscne.org/wp-content/uploads/2018/09/StudentPostersDocument-2019-Final.pdf`

NON-REFEREED PUBLICATIONS

- Ramesh Raskar, Ranu Dhillon, Suraj Kapa, Deepti Pahwa, Renaud Falgas, Lagnojita Sinha, Aarathi Prasad, Abhishek Singh, Andrea Nuzzo, Rohan Iyer, Vivek Sharma. *Comparing manual contact tracing and digital contact advice.* Aug 2020. `https://arxiv.org/abs/2008.07325`.
- Aarathi Prasad. *Privacy-preserving controls for sharing mHealth data.* **Ph.D. Thesis**, Dartmouth College Computer Science, May, 2016. Available as Dartmouth Computer Science Technical Report TR2016-794.
- Aarathi Prasad, Michael Butkiewicz. *HotMobile 2013,* ***IEEE Pervasive Computing****, vol.12, no.3, pp. 85-88, July-Sept 2013, doi:10.1109/MPRV.2013.50*

- *Aarathi Prasad.* Exposing Privacy Concerns in mHealth Data Sharing. ***Masters Thesis****, Dartmouth College Computer Science, February, 2012. Available as Technical Report TR2012-711.*

OUTREACH: INVITED TALKS and PANELS

- Public presentation (via Zoom) at the Saratoga Springs Public Library titled "Contact Tracing: What You Should Now", 2020
- Skidmore College Encore 2020 presentation titled 'Smart "Evil" Phones: Addressing Smartphone Users' Concerns About Privacy and Overuse'
- Panelist for 'Contact Tracing - Cybersecurity and Privacy Implications' panel organized by Institute of Security, Technology and Society, Dartmouth College, 2020
- Guest speaker at a Girls Who Code meeting in Schyulerville, 2019
- "Parenting in the digital age", Talk, Maple Avenue Middle School, 2019
- "Smart devices - good, ridiculous or evil?", Talk, Colgate University, 2018
- "IoT device surveillance in the home", Talk, AALAC Data Ethics program, Pomona College, 2017
- Guest lecture in Cyberpolitics course, Political Science Department, Amherst College, 2016

OUTREACH: MEDIA PRESENCE

- Reducing Digital Overload. `https://cacm.acm.org/news/254399-reducing-digital-overload/fulltext`
- Business Insider: Colombia had to abandon contact tracing from its coronavirus app because it didn't work properly. `https://www.businessinsider.com/colombia-contact-tracing-apple-google-coronavirus-app-2020-5`
- WAMC: How Contact Tracing Works.`https://www.wamc.org/post/how-contact-tracing-works`
- WNYT-NewsChannel13: Skidmore College computer scientist says smartphone apps can help contact tracing.`https://wnyt.com/saratoga-county-ny-news/skidmore-college-computer-scientist-dr-aarathi-prasad-says-smartphone-apps-can-help-contact-tracing/5715931/`
- News10 ABC: Local expert talks COVID-19 contact tracing. `https://www.news10.com/news/local-news/local-expert-talks-contact-tracing/`
- CBS 6 Albany: Skidmore College Professor researching contact tracing technology. `https://cbs6albany.com/news/coronavirus/skidmore-college-professor-researching-contact-tracing-technology`
- Saratoga Today: Using Contact Tracing to Battle COVID-19. `https://www.saratogatodaynewspaper.com/home/item/11607-using-contact-tracing-to-battle-covid-19`
- Saratoga Living: What's It Like Being A Contact Tracer During The COVID-19 Crisis. `https://saratogaliving.com/whats-it-like-contact-tracer-covid-19/`

OUTREACH: STUDENT PROJECTS

- *Advisor for mobile app for Adirondack Film Festival.* 2019-2020
- *Advisor for mobile app for local Saratoga Springs company.* 2018-2019

COLLEGE SERVICE

- *HHMI Inclusive Excellence Initiative leadership team member.* 2022.
- *Elected member to the Periclean Honors Forum Council.* 2021-2024.
- *Leader for Scholarly and Creative Endeavors (SCE), faculty and staff writing group.* 2020-2022.
- *Mentor to undergraduate peer academic coaches for the CS department.* 2021-now.
- *Department faculty search committee member.* 2022, 2021, 2020, 2018.
- *Organized various CS department events.* 2017-now.
- *Department website maintenance.* 2019-now.

PROFESSIONAL SERVICE

- *Technical Program Committee member, ACM Student Research Competition.* 2022
- *Consultant for Kapital Group.* 2022
- *Technical Program Committee member, IEEE NetHealth.* 2021
- *Technicl Program Committee member, IEEE ICPADS (Security).* 2021
- *Reviewer, IEEE Internet of Things, International Journal on Child-Computer Interaction.* 2020.
- *Technical Program Committee member (Security track), IEEE ICPADS.* 2020.
- *Conference Session Chair, HCII.* 2020.
- *Reviewer, ACM Transactions on Computing for Healthcare, Frontiers in Psychology, IEEE INFOCOM.* 2020.
- *Conference Session Chair, HealthInf conference.* 2020.
- *Conference Session Chair, SIGCSE and HCII.* 2019.
- *Reviewer, IEEE Transactions on Vehicular Technology, ACM Health on Wearable Technologies for Smart Health, Transactions on Mobile Computing.* 2019
- *Co-chair, Student Travel Grant, ACM Mobicom.* 2019
- *Mentor, ASSET workshop at ACM Mobicom.* 2019
- *Poster Session Judge, CCSCNE, ACM Mobicom.* 2019
- *Reviewer, Transactions on Mobile Computing, IEEE S&P, NSF grant.* 2018
- *Program Committee Member, ACM Student Research Competition, Grace Hopper Conference.* 2018
- *Mathematical Contest in Modeling (MCM) judge.* 2018
- *Poster Committee Member, Grace Hopper Conference.* 2017, 2018
- *Co-chair, 2nd Women's Workshop, International Conference on Mobile Systems, Applications, and Services (MobiSys).* 2017
- *ACM Poster Session Judge, and Student Mentor, Grace Hopper Conference.* 2016
- *Moderator, Designing Secure and Privacy-Aware IoT and Wearable Technologies for Healthcare Panel, Grace Hopper Conference.* 2014
- *General Co-Chair, PhD Forum, International Conference on Mobile Systems, Applications, and Services (MobiSys).* 2014
- *Student volunteer, International Workshop on Mobile Computing Systems and Applications (Hotmobile).* 2013