

# AARATHI PRASAD

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## EDUCATION

*Dartmouth College, Hanover, NH*

PhD, Computer Science, Advisor: David Kotz, Expected date of completion: May 2016

September 2011-Present

Master of Science, Computer Science, GPA : 3.5, Advisor: David Kotz

September 2009-February 2012

*National Institute of Technology, Calicut, India*

Bachelor of Technology, Computer Science and Engineering, GPA : 8.76

August 2003-April 2007

## RESEARCH EXPERIENCE

*Dartmouth College CS Department, Hanover, NH*

*Graduate Student*

- *PhD Thesis: Privacy-preserving sharing controls for Mobile Devices* September 2011-Present  
Developing a smartphone-based system to alert users about possible contagious airborne infections.  
Developed a protocol that allows mobile device users to securely collect and share context information.  
Collaborating with researchers at CTBH Dartmouth to conduct user studies to evaluate sharing using mobile devices.  
Collaborated with the Live Well, Work Well group at DHMC to understand privacy concerns employees might have when sharing health data with employers.  
Developed a mobile application extension framework (using Android SDK) to allow users to collect and share context as evidence to help the recipients understand the meaning of remotely collected health data.  
Collaborated with researchers at Rice University to add face verification capability to a mobile spirometer (using Matlab).  
Collaborated with researchers at IIT Delhi to design a contextual evidence storage system.  
Visited rural villages in India to study the workflow of rural health clinics and to conduct an ethnographic study of health workers, clinicians and operators who enter data into electronic health records.
- *Masters Thesis: Exposing Privacy Concerns in mHealth data sharing* September 2009-February 2012  
Collaborated with interdisciplinary team from Institute of Security, Technology and Society (ISTS) to understand individuals privacy concerns with the use of mobile and wearable health- monitoring devices through focus groups, interviews and user studies.  
Developed web application using Ruby on Rails and MySQL and conducted data analysis using R, for user studies.
- *Class Projects*  
Used tracing tools to determine how interprocess communication works in Android framework. Jan-Mar 2015  
Applied deep learning algorithms to the problem of face verification, using Matlab and the Labeled Faces in the Wild dataset. March-May 2013  
Developed software that distinguishes between subjects based on their dance moves using Matlab. January-March 2010  
Developed a Bittorrent client using C (group project). January -March 2010
- *Teaching Experience*  
Mentor for Women in Science Project (WISP) interns. Jan-May 2011, Jan-May 2013, Sept-Dec 2013  
Mentor for undergraduate student, working on senior thesis. September 2011-May 2012  
Teaching Assistant for CS class on User Interface Design. September-December 2011  
Instructor at after-school programming classes at local high schools. September 2012 - Present  
Instructor for robotics camp and camp on cyber security. August 2010,2011,2012

*National Institute of Technology, Calicut, India*

*Undergraduate Student*

- Studied processor-level security schemes and memory integrity verification and implemented Merkle tree and hash tree, and control flow checking using C. August 2006-April 2007
- Developed a Timetable Management System using PHP and MySQL. December 2005-April 2006

## WORK EXPERIENCE

*Intel Labs, Hillsboro, OR*

*Privacy Research Intern*

May 2014 - August 2014

Designed privacy controls to help users better understand what data to share when using mobile technologies.

*Oracle Corporation, Hyderabad, India*

*Software Engineer*

July 2007 - April 2009

Key developer of Search Modeler and part of the development team of AppSearch (E-Business Suite Secure Enterprise Search).

Contributed the frontend JSP and backend Java and XML files for Search Modeler.

## TECHNICAL SKILLS

*Languages:* Java (expert), Python (proficient), Ruby, C/C++, and Arduino programming (prior experience)

*Web-related:* JSON, XML (expert), XSL, HTML, CSS, JavaScript, PHP, JSP (prior experience)

*Statistical Computing Tools:* R, Matlab (proficient)

*Databases:* MySQL (expert), Oracle (prior experience)

## PROFESSIONAL SKILLS

*General Co-Chair, PhD forum, International Conference on Mobile Systems, Applications, and Services(MobiSys)* June 2014

*Co-chair, Dartmouth Graduate Women in Science and Engineering* June 2012 - May 2013

Organized professional and social events for graduate students (about 30-100 attendees).

Organized first-ever Science day at Dartmouth in Spring 2013 (about 100 student attendees).

*Member of Organizing Committee, Dartmouth Computer Science Research Symposium (120 attendees)* September 2012

*Dartmouth Graduate Student Leader.* Participated in team development exercises. September 2011, March 2012, March 2013

*Vice President, Dartmouth Graduate Student Council* May 2011 - May 2012

Worked as a liaison between the college administration and graduate students.

Managed and assisted in the functioning of the graduate student groups.

Organized the first graduate student groups fair.

Started and chaired the Web Team, to manage the website.

Organized donation drive to help support Hurricane Irene recovery efforts.

*Secretary, Dartmouth Graduate Student Council* May 2010 - May 2011

Introduced electronic voting for student elections and maintained the GSC website.

*Board member, Shanti, Dartmouth Hindu Student Organization* May 2010 - Present

Organized Diwali celebrations (700 attendees), Spring celebrations (250 attendees) and religious talks (100 attendees).

## PUBLICATIONS

Aarathi Prasad, Xiaohui Liang and David Kotz. **DataLocker: Benefit-Oriented Access Control for Mobile Devices.** In preparation.

Aarathi Prasad, Xiaohui Liang and David Kotz. **SPICE:Secure Proximity-based Infrastructure for Context Exchange.** In preparation.

Aarathi Prasad and David Kotz. **Ocean: Open Contextual Evidence Add-On for Mobile Applications.** In preparation.

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), June, 2014. ACM Press. DOI 10.1145/2594368.2601448. Copyright 2014 by ACM.

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. Accepted for Publication.

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, Ronald Peterson, Shirang Mare, Jacob Sorber, Kolin Paul and David Kotz. **Provenance framework for mHealth.** In *Workshop on Networked Healthcare Systems*, January, 2013. IEEE Computer Society Press. Copyright 2013 by IEEE.

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.

Aarathi Prasad, Jacob Sorber, Timothy Stablein, Denise Anthony and David Kotz. **Understanding Sharing Preferences and Behavior for mHealth Devices.** In *Workshop on Privacy in the Electronic Society (WPES)*, October 2012, Raleigh.

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

Jacob Sorber, Minh Shin, Ronald Peterson, Cory Cornelius, Shirang Mare, Aarathi Prasad, Zachary Marois, Emma Smithayer, David Kotz. **An Amulet for trustworthy wearable mHealth.** In *Workshop on Mobile Computing Systems and Applications (HotMobile)*, pages 7:1-7:6, February, 2012. DOI 10.1145/2162081.2162092. Copyright 2012 by the authors.

Aarathi Prasad, Jacob Sorber, Timothy Stablein, Denise Anthony and David Kotz. **Exposing privacy concerns in mHealth.** In *USENIX Workshop on Health Security (HealthSec)*, August, 2011. Position paper. Copyright 2011 by the authors.

Aarathi Prasad and David Kotz. **Can I access your Data? Privacy Management in mHealth.** In *USENIX Workshop on Health Security (HealthSec)*, August 2010. Position paper. Copyright 2010 by the authors.