

Manaswi Saha

PHD STUDENT IN COMPUTER SCIENCE AND ENGINEERING

Paul G. Allen School of Computer Science and Engineering, University of Washington, Seattle, WA - 98195, USA

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Research Interests

Human Computer Interaction, Urban Informatics, Accessibility, Ubiquitous Computing, Internet of Things, Technology for Development

Education

University of Washington

Seattle, USA

PH.D. IN COMPUTER SCIENCE AND ENGINEERING (ADVISOR: PROF. JON FROEHLICH)

September 2017 - Present

University of Maryland

College Park, USA

PH.D. IN COMPUTER SCIENCE (ADVISOR: PROF. JON FROEHLICH) - transferred to University of Washington

August 2015 - August 2017

Dean's Fellowship 2015 - 2017

Vellore Institute of Technology (VIT) University

Vellore, India

MASTER OF COMPUTER APPLICATIONS (MCA)

July 2009 - May 2012

Top 3 in the MCA batch of 2012

University of Mumbai

Mumbai, India

BACHELOR OF SCIENCE - INFORMATION TECHNOLOGY (B.Sc.IT)

June 2006 - April 2009

Top 3 in the B.Sc.IT batch of 2009

Publications

PEER-REVIEWED CONFERENCE PAPERS

- 2017 [P.5] **Exploring Novice Approaches to Smartphone-Based Thermographic Energy Auditing: A Field Study**
Matthew L Mauriello, **Manaswi Saha**, Erica Brown, Jon E. Froehlich
ACM CHI 2017. Denver, USA. (Acceptance Rate: 25% [606/2424])
- 2015 [P.4] **SensorAct: A Decentralized and Scriptable Middleware for Smart Buildings**
Pandarasamy Arjunan, **Manaswi Saha**, Haksoo Choi, Manoj Gulati, Amarjeet Singh, Pushpendra Singh, Mani B. Srivastava
IEEE UIC 2015. Beijing, China. (Acceptance Rate: 30.6%)
- 2014 [P.3] **WattShare: Detailed Energy Apportionment in Shared Living Spaces within Commercial Buildings**
Shailja Thakur, **Manaswi Saha**, Amarjeet Singh, Yuvraj Agarwal
ACM BuildSys 2014. Memphis, USA. (Acceptance Rate: 27%)
- [P.2] **EnergyLens: Combining Smartphones with Electricity Meter for Accurate Activity Detection and User Annotation**
Manaswi Saha, Shailja Thakur, Amarjeet Singh, Yuvraj Agarwal
ACM e-Energy 2014. Cambridge, UK. (Acceptance Rate: 20%)
- 2012 [P.1] **Bandwidth Management Framework for Multicasting in Wireless Mesh Networks**
Manaswi Saha, P. Venkata Krishna
IJIEE 2012. Vol. 2, No. 3.

PEER-REVIEWED POSTERS, EXTENDED ABSTRACTS AND WORKSHOPS

- 2017 [EA.3] **A Pilot Deployment of an Online Tool for Large-Scale Virtual Auditing of Urban Accessibility**
Manaswi Saha, Kotaro Hara, Soheil Behnezhad, Anthony Li, Michael Saugstad, Hanuma Maddali, Sage Chen, Jon E. Froehlich
ASSETS 2017. Poster & Demo. Baltimore, USA.

- 2016 [EA.2] **The Future Role of Thermography in Human-Building Interaction**
Matthew L. Mauriello, M. Dahlhausen, E. Brown, **Manaswi Saha**, Jon E. Froehlich
CHI 2016 Workshop: Future of Human-Building Interaction. San Jose, USA.
- 2013 [EA.1] **SensorAct: Design and Implementation of Fine-grained Sensing and Control Sharing in Buildings**
Pandarasamy Arjunan, **Manaswi Saha**, Manoj Gulati, Nipun Batra, Amarjeet Singh, Pushpendra Singh
USENIX NSDI 2013. Poster. Lombard, USA.

Patents

- 2017 [Pa.1] **Digital Content Output Control in a Physical Environment Based on a User Profile**
Manaswi Saha, Tom Jacobs, David Tompkins, Peter Fransen
Adobe Research. Filed in February 2017. Patent Pending.

Talks and Conference Presentations

- 2017 [T.5] **Bridging the Pedestrian Accessibility Informational Gap: User-Facing Applications and Large-Scale Virtual Auditing**
Manaswi Saha, Nick Bolten
UW Affiliates Research Day 2017. Seattle, Washington. November 2017.
- [T.4] **Project Sidewalk: Assessing Urban Accessibility using Crowdsourcing and Google Street View**
Manaswi Saha, Jon Froehlich
HCIL Symposium 2017. College Park, Maryland. May 2017.
- 2016 [T.3] **Interactive Computational Tools For Accessibility**
Manaswi Saha, Ladan Najafizadeh, Meethu Malu, Uran Oh, Lee Stearns
UMD Diversity in Computing Summit. College Park, Maryland. November 2016.
- [T.2] **Tech+Design: Interaction Design For A Purpose**
Majeed Kazemitabaar, Soheil Behnezhad, **Manaswi Saha**, Liang He
Technica: Tech+X Talk Series. College Park, Maryland. November 2016.
- 2014 [T.1] **EnergyLens: Combining Smartphones with Electricity Meter for Accurate Activity Detection and User Annotation**
Manaswi Saha, Shailja Thakur, Amarjeet Singh, Yuvraj Agarwal
Fifth International Conference on Future Energy Systems (ACM e-Energy). Cambridge, UK. June 2014.

Press and Media Coverage

- 2017 **Make D.C.'s sidewalks more accessible with this crowd-sourced map**
Curbed DC, February 2017
<https://dc.curbed.com/2017/2/20/14669990/project-sidewalk>
- University of Maryland project looks to crowdsource an accessibility map of DC's sidewalks**
Mobility Lab, February 2017
<https://mobilitylab.org/2017/02/15/umd-project-crowdsources-dc-sidewalks-accessibility>
- Clear the Way - UMD Computer Scientists Seek Public Help Mapping Sidewalk Accessibility**
Terp Magazine, January 2017
<http://terp.umd.edu/clear-the-way>
- 2016 **How Project Sidewalk is making DC more accessible**
Technical.ly, November 2016
<https://technical.ly/dc/2016/11/30/project-sidewalk-accessibility>
- New tool makes DC sidewalks more accessible for everyone**
WUSA9 News, November 2016
<http://www.wusa9.com/news/local/new-tool-makes-dc-sidewalks-more-accessible-for-everyone/352576119>

A UMD team made an app highlighting D.C. areas inaccessible to people with disabilities

The Diamondback, October 2016

<http://www.dbknews.com/2016/10/14/university-of-maryland-app-washington-disability-access>

You Can Help Map the Accessibility of the World

Next City, October 2016

<https://nextcity.org/daily/entry/sidewalk-mapping-accessibility-dc-crowdsourcing>

Missing sidewalks? There's an app for that

Greater Greater Washington, September 2016

<https://ggwash.org/view/42945/missing-sidewalks-theres-an-app-for-that>

Honors & Awards

2016	ACM-W Scholarship	ACM CHI 2016	<i>San Jose, USA</i>
2016	CRA-W Grad Cohort Participation Grant	Grad Cohort Workshop 2016	<i>San Diego, USA</i>
2015	Dean's Fellowship	University of Maryland, College Park (2015 – 2017)	<i>College Park, USA</i>
2014	Microsoft Research India Travel Grant	ACM e-Energy 2014	<i>Cambridge, UK</i>
2012	Merit Scholarship	VIT University (2009 – 2012)	<i>Vellore, India</i>
2012	Certificate of Merit	Top 1% MCA batch (2009 - 2012)	<i>Vellore, India</i>
2009	Certificate of Merit	Top 1% B.Sc.IT batch (2006 – 2009)	<i>Mumbai, India</i>
2009	Certificate of Merit	1st position for Final year B.Sc.IT Project	<i>Mumbai, India</i>

Research and Work Experience

University of Washington

GRADUATE RESEARCH ASSISTANT

Advisor: Prof. Jon Froehlich

Seattle, USA

September 2017 – present

University of Maryland

GRADUATE RESEARCH ASSISTANT

Advisor: Prof. Jon Froehlich

College Park, USA

August 2016 – August 2017

Adobe Research

RESEARCH INTERN

Mentors: Tom Jacobs and David Tompkins

San Jose, USA

May 2016 – August 2016

Indraprastha Institute of Information Technology, Delhi

RESEARCH ASSOCIATE

Advisor: Prof. Amarjeet Singh

New Delhi, India

November 2012 – July 2015

Teaching Experience

University of Washington

GRADUATE TEACHING ASSISTANT

Paul G. Allen School of Computer Science and Engineering

CSE440: Introduction to HCI

Seattle, USA

January 2018 – present

Winter 2018

University of Maryland

GRADUATE TEACHING ASSISTANT

Department of Computer Science

CMSC132: Object-Oriented Programming II

CMSC131: Object-Oriented Programming I

College Park, USA

August 2015 – May 2016

Spring 2016

Fall 2015

Service

2018 ACM CHI 2018 Student Volunteer

2016 Adobe Girls Who Code Mentor

ACM CHI 2016 Student Volunteer

Mentorship

2017 Sage Chen, Sophomore, University of Michigan
Aditya Dash, Senior, University of Maryland
Steven Bower, Senior, University of Maryland
Chirag Shankar, Junior, University of Maryland
Ryan Holland, Senior, Montgomery Blair High School
Anthony Li, Freshman, University of Maryland
Maria Furman, Senior, University of Maryland
Ji Hyuk Bae, Freshman, University of Maryland

Courses Taken

University of Washington, Seattle

CSE550: Computer Systems

University of Maryland, College Park

CMSC723: Computational Linguistics I, CMSC733: Computer Processing of Pictorial Information, CMSC838L: HCI Reading Seminar, CMSC818D: Human Factors in Security and Privacy, CMSC818G: Information Centric Design of Systems, CMSC634: Empirical Research Methods in Computer Science

VIT University (selected ones)

Discrete Mathematics, Data Structures, Operating Systems, Algorithm Analysis and Design, Pervasive Computing, Mobile Computing, Software Engineering, Database Management Systems, Open Source Programming, Computer Networks

Technical Skills

Programming Languages ❤ Python, Java, C, C++, HTML/CSS, Shell Scripting, JavaScript

Data Analysis Tools Python (pandas, numpy, matplotlib, sklearn)

Web Frameworks Django, Play

Database Tools MySQL, PostgreSQL, MongoDB

Software Tools Latex, Github, Eclipse