Yasha S. Iravantchi

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Research Interests

Human-Computer Interaction (HCI), Wearables, Ubiquitous Computing, Sensors, Health

Education

Carnegie Mellon University, Pittsburgh, PA — August 2017 to present
Ph.D. Student, Human-Computer Interaction

Harvard University, Cambridge, MA — May 2014
S.B., Engineering Sciences (Tracks: Electrical Engineering/Biomedical Engineering)

Professional Experience

Design Specialist in Electrical Engineering — June 2014 to July 2017
Active Learning Labs, Harvard University SEAS
Cambridge, MA

Product Design and Engineering Intern — Summers 2009-2012
Design Catapult, Inc.
Fountain Valley, CA

Research Experience

Research Affiliate — June 2013 to Jan 2017
Intelligent Interactive Systems Group,
Harvard University SEAS
Supervisor: Prof. Krzysztof Z. Gajos

Publications

1. Sunyoung Kim, **Yasha Iravantchi**, Krzysztof Z. Gajos, and Barbara Grosz. SwellFit: a Wearable Sensor for Patients with Congestive Heart Failure. In *Proceedings of the Workshop on Interactive Systems in Healthcare (WISH) 2016*, 2016.

2. Sunyoung Kim, **Yasha Iravantchi**, Krzysztof Z. Gajos, and Barbara Grosz. Exploring Opportunities for Social Infrastructure in Congestive Heart Failure Management. In *Proceedings of the CSCW 2015 workshop on Moving Beyond e-Health and the Quantified Self*, 2015.

Invited Talks

"Labs in the Wild": Teaching Signal Processing Using Wearables and Jupyter Notebooks in the Cloud (Talk)
- SciPy Conference, Austin, TX — July 2016

Wearable Signal Processing Using Docker Notebook Containers on AWS (Talk)
- JupyterDays Boston, Cambridge, MA — Mar 2016

Teaching Experience

Course Support — AY 2014-15, AY 2015-16, AY 2016-17
ES 96 - Engineering Problem Solving and Design Project
Instructor: Varies by semester
School of Engineering and Applied Sciences, Harvard University

Course Support — AY 2014-15, AY 2015-16, AY 2016-17
ES 100 - Engineering Design Projects
Instructor: Prof. Rob Wood
School of Engineering and Applied Sciences, Harvard University

Teaching Fellow — Spring 2016, Fall 2016
ES 155 - Biological Signal Processing
Instructor: Prof. Demba Ba
School of Engineering and Applied Sciences, Harvard University

Course Support — AY 2014-15, AY 2015-16, AY 2016-17
ES 52 - The Joy of Electronics - Part I
Instructor: David Abrams
School of Engineering and Applied Sciences, Harvard University

Course Assistant Spring 2016
ES 151 - Applied Electromagnetism
Instructor: Mohamed Abouzahra, Ph.D. and Joseph Usoff, Ph.D.
School of Engineering and Applied Sciences, Harvard University

Teaching Fellow Spring 2013, Spring 2014
ES 50 - Introduction to Electrical Engineering
Instructor: Profs. Marko Loncar and Evelyn Hu
School of Engineering and Applied Sciences, Harvard University

Teaching Fellow Fall 2013
BE 110 - Physiological Systems Analysis
Instructor: Prof. Daniel Merfeld
School of Engineering and Applied Sciences, Harvard University

Undergraduate Research Projects

1. *Robust Eye BlinkBased Selection Technique for Gaze-Based Interaction*
   Advisor: Prof. Krzysztof Gajos (Harvard SEAS)
2. *Mitigating the Effects of Interruptions and Task Switching using Blink-Based Interfaces*
   Advisor: Prof. Krzysztof Gajos (Harvard SEAS)
3. *Using EEG Noise as a Means for Adding Robustness to Eye Gaze Interfaces*
   Advisor: Prof. Krzysztof Gajos (Harvard SEAS)
4. *PCA-Based Face Detection using FOSCAM IP Camera and Facebook*
   Advisor: Prof. Jim Waldo (Harvard SEAS)
5. *LightningVolt: A bicycle-based mobile device charger*
   Advisor: Prof. Gu-Yeon Wei (Harvard SEAS)

References

Krzysztof Z. Gajos
Professor
Intelligent Interactive Systems Group — E-mail: kgajos@seas.harvard.edu
Harvard University SEAS

Sunyoung Kim
Assistant Professor
School of Communication and Information — E-mail: sunyoungkim@rutgers.edu
Rutgers University

Anas Chalah
Executive Director of Active Learning
School of Engineering and Applied Sciences — E-mail: achalah@seas.harvard.edu
Harvard University

Hardware and Software Skills

Engineering Hardware:
Arduino, Raspberry Pi, BeagleBone, Neurosky MindWave, OpenEEG, Google Glass, Android, GazePoint EyeTracker, Empatica E4, EE Lab Stack (e.g. Oscilloscope, Function Generator)

Engineering Software:
SolidWorks, Matlab, Eagle, OpenCV, Open-Vibe, iPython/Jupyter

Languages

Computer Languages:
C, Matlab, LaTeX, HTML, CSS, PHP, JavaScript, Python (incl. NumPy, SciPy, SciKitLearn)

Human Languages:
English (Native), Persian (Native), Spanish (Previously Fluent)