Sai Ganesh Swaminathan

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Research Interests

Summary — I'm broadly interested in built environment and how it is designed. My research explores how to enable users to add, customize and edit our built environment with computational capabilities

Interested Areas — Fabrication, Sensing, AR, 3D Printed Composites, Printed Electronics, HCI

Education

August 2016-Present — **Carnegie Mellon University**, Pittsburgh, US.
PhD student, Human Computer Interaction, School of Computer Science.
Advisor: Scott Hudson

July 2015 — **Technische Universität Berlin**, Berlin, Germany.
Masters in Human-Computer Interaction amd Design
Thesis Advisor: Stefanie Mueller and Patrick Baudisch

July 2012 — **SASTRA University**, Thanjavur, India.
Bachelor of Technology in Computer Science and Engineering

2011–2012 — **ETH Zürich**, Zürich, Switzerland.
Exchange Student at department of computer science

Publications

Peer-Reviewed Papers at ACM CHI, Ubicomp, CSCW and UIST are premiere venues for HCI, 22% acceptance rate

Saiganesh Swaminathan, Kadri Bugra Ozutemiz, Carmel Majidi, Scott Hudson. FiberPrint: 3D Printing Mechanically Strong, Lightweight Carbon-Fiber Composite Devices with Embedded Electronic Function. *To appear in CHI 2019*

Saiganesh Swaminathan, Mike Rivera, Runchang Kang, Zheng Luo, Kadri Bugra Ozutemiz, Scott E Hudson. Input and Interaction with Room-Scale Deployable Pneumatic Structures *Ubicomp 2019*

Saiganesh Swaminathan, Indrani Medhi Thies, Devansh Mehta, Ed Cutrell, Amit Sharma, and Bill Thies. Learn2Earn: Using Mobile Airtime Incentives to Bolster Public Awareness Campaigns *In Proc. of CSCW'19*:

Saiganesh Swaminathan, Raymond Fok, Fanglin Chen, Ting-Hao Kenneth Huang, Irene Lin, Rohan Jadvani, Walter S. Lasecki, and Jeffrey P. Bigham. WearMail: On-the-Go Access to Information in Your Email with a Privacy-Preserving Human Computation Workflow. *In Proc. of UIST'17*: ACM, Pages, 807-815, October 2017

Saiganesh Swaminathan, Kotaro Hara, and Jeffrey P. Bigham. The Crowd Work Accessibility Problem *In Proc. of W4A'17*: ACM, April 2017

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Saiganesh Swaminathan, Thijs Roumen, Robert Kovacs, David Stangl, Stefanie Mueller, and Patrick Baudisch. Linespace: A Sensemaking Platform for the Blind. *In Proc. of CHI'16*: ACM, Pages, 2175–2185, May 2016

.

Benjamin V. Hanrahan, Jutta K. Willamowski, **Saiganesh Swaminathan**, David B. Martin. TurkBench:

Rendering the Market for Turkers *In Proc. of CHI'15*: ACM, Pages 1613-1616, April 2015

.

Saiganesh Swaminathan, Conglei Shi, Yvonne Jansen, Pierre Dragicevic, Lora Oehlberg, Jean-Daniel Fekete. Supporting The Design and Fabrication of Physical Visualizations. *In Proc. of CHI'14*:, ACM, pages 3845-3854, April 2014.

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Posters and Demos

Saiganesh Swaminathan, Bill Thies, Amit Sharma, Devansh Mehta, Alok Sharma. Learn2Earn: Enabling Mass Awareness through Financial Incentives. In Proc. of ICTD 2019, Jan 2019.

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Ting-Hao Kenneth Huang and Joseph Chee Chang and **Saiganesh Swaminathan** and Jeffrey P. Bigham.Evorus: A Crowd-powered Conversational Assistant That Automates Itself Over Time. Poster at UIST'17. *In Adjunct Proc. of UIST'17 EA*: ACM, pages 155-157, OCT 2017.

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Saiganesh Swaminathan, Ting-Hao K. Huang, Irene Lin, Anhong Guo, Gierad Laput, and Jeffrey P. Bigham. (2017) Epistemo: A Crowd-Powered Conversational Search Interface. In the Talking with Conversational Agents in Collaborative Action Workshop at the 20th ACM CSCW, Feb 2017.

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Saiganesh Swaminathan, Conglei Shi, Yvonne Jansen, Pierre Dragicevic, Lora Oehlberg, Jean-Daniel Fekete. Creating Physical Visualizations With MakerVis. Interactivity Demo at CHI'14. *In Proc. of CHI'14 EA*: ACM, pages 543-546, April 2014.

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Research Experiences

2016–Present **Carnegie Mellon University, School of Computer Science**

Graduate Student Researcher, *Human Computer Interaction Institute*.
Exploring additive manufacturing of printed electronics. Specifically looking at processing innovations that enable a new class of multi-functional composites for designing custom interactive electronic devices and assistive technologies.

2015–2016 **Microsoft Research, Bangalore**

Researh Fellow, *Technologies for Emerging Markets group with Bill Thies, Ed Cutrell*.
I explored how to use mobile airtime incentives to strengthen public awareness campaigns

2014–2015 **Hasso-Plattner-Institut, Berlin**

Researh Assistant, *HCI Lab with Stefanie Mueller, Patrick Baudisch*.
Developed a sensemaking platform for blind users with 3d printers, published at CHI'16

2013–2014 **Xerox Research Europe Centre, Grenoble**

Researh Intern, *Work Practice Technology group with Ben Hanrahan, David Martin*.
Helped develop turkbench, a tool which helps crowd workers, published at CHI'15.

2012–2013 **INRIA, Paris**

Research Intern, *AVIZ group with Yvonne Jansen, Pierre Dragicevic*.
Built Makervis a tool that helps novice users build physical visualizations, published at CHI'14

Skill Set

Hardware:	Mechatronic systems, Eagle PCB, Arudino programming, Gcode, Digital Fabrication, Arduino programming, Machining, Tooling, 3D printers, Lasercutters, CNC Routers	Simulation & Design:	Solidworks, Inventor, ANSYS
Programming:	Javascript, HTML 5, CSS 3, D3, Processing, OpenGL, OpenCV, Python, Django, C, C++, Java, MySQL	Machine learning:	Keras, Scikit-learn, Weka
Design:	Photoshop, Illustrator, Premiere	Other Tools:	R statistical modelling

Scholarships

- **EIT ICT Labs Excellence Nominee** which includes stipend, tuition fee waiver and travel support for attending two graduate school(16,800 euros with tuition fee waivers).
- **Desh-Videsh** scholarship for study abroad awarded by (1000 euros + roundtrip air tickets).
- Scholarship awarded by **Global information systems group, ETH Zürich** to pursue research activities at ETH Zürich (5,250 Swiss Francs)
- Rountrip travel expenses from INRIA to present my scientific paper in Toronto, Canada
- Bonus for filing invention disclosure at Xerox Research Europe
- Stipendium from Hasso Plattner Institut to finish my thesis

Reviewing

ACM CHI	'16,'17,'18, '19
ACM UIST	'17 '18
ACM TEI	'18
ACM ISS	'18

References

Scott Hudson, Professor at Carnegie Mellon University, School of Computer Science, HCII
email: scott.hudson@cs.cmu.edu

Carmel Majidi, Clarence H. Adamson Associate Professor of Mechanical Engineering, Carnegie Mellon University.
email: cmajidi@andrew.cmu.edu

Jeff Bigham, Associate Professor at Carnegie Mellon University, School of Computer Science, HCII
email: jbigham@cs.cmu.edu

Bill Thies, Principal Researcher, Technology for emerging markets group, Microsoft Research, New England.
email: thies@microsoft.com