

Research summary

Aims—to develop and evaluate tangible devices that help people self-regulate their use of smartphones and laptops.

Research positions

2021 — 2022

Pre-Doctoral Researcher

Dept. of Computer Science, University of Maryland, College Park

Education

2022 — present

PhD in Computer Science, University of Chicago

Supervisor: [Dr. Ken Nakagaki](#)

Thesis: in-progress

2019 — 2021

MSc in Human-Computer Interaction, University of Maryland, College Park

Supervisor: [Dr. Huaishu Peng](#)

Thesis: Enabling On-body Computing Using a Track Based Wearable

2014 — 2018

BTech in Electronics & Communication Engineering, PES University

Supervisor: Suresh Padmanabhan

Thesis: Realtime On-chip Wireless Waveform Monitoring

Major grants and funding

2022

Crerar Fellowship (\$5000), Dept. of Computer Science, University of Chicago

2022

Daniels Fellowship (\$5000), Dept. of Computer Science, University of Chicago

2019 — 2021

Full tuition remission (~\$56k), University of Maryland, College Park

Awards & honors

2024

Special Recognition for Outstanding Reviews, DIS 2023, CHI 2024

2023

core77 Design Awards 2023, [Tools Award for Fibercuit](#)

2020

Nominated for Graduate Assistant of the Year (top 2%), University of Maryland, College Park

2016

Zonal Winner, National Robotics Championship, IIT Bombay, India

Publications

Conference publications (fully reviewed, archival)

In computer science, top-tier conferences (<30% acceptance rate) are as, or more impactful than journals, see <https://doi.org/fgjt2h>

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|------|----|---|
| 2024 | C6 | SHAPE-IT: Exploring Text-to-Shape-Display for Generative Shape-Changing Behaviors with LLMs [url]
W. Qian, C. Gao, A. Sathya, R. Suzuki, K. Nakagaki
The 37th Annual ACM Symposium on User Interface Software and Technology (UIST '24) |
| | C5 | CARDinality: Interactive Card-shaped Robots with Locomotion and Haptics using Vibration [url]
A. Retnanto*, E. Faracci*, A. Sathya*, Y. Hung, K. Nakagaki
The 37th Annual ACM Symposium on User Interface Software and Technology (UIST '24)
[*equal contribution] |
| | C4 | Attention Receipts: Utilizing the Materiality of Receipts to Improve Screen-time Reflection on YouTube [url]
A. Sathya, K. Nakagaki
Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24) |
| 2022 | C3 | Fibercuit: Prototyping High-Resolution Flexible and Kirigami Circuits with a Fiber Laser Engraver [url]
Z. Yan*, A. Sathya*, S. Yusuf, J. Lien, H. Peng
The 35th Annual ACM Symposium on User Interface Software and Technology (UIST '22)
[*equal contribution]
🏆 core77 Design Awards 2023 - Tools Award |
| 2018 | C2 | Realtime On-chip Wireless Waveform Monitoring [url]
A. Sathya, S. Balaji, A. Gupta, S. Padmanabhan
IEEE 2018 International Conference on Advances in Computing, Communications and Informatics (ICACCI '18) |
| 2017 | C1 | Visual Positioning System for Automated Indoor/Outdoor navigation [url]
A. Sathya, A. Goel, S. Padmanabhan
IEEE 2017 Region 10 Conference (TENCON '17) |

Journal articles (fully reviewed, archival)

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| 2022 | J1 | Calico: Track Based Interactive and Relocatable Wearables with Fast, Reliable, and Precise Locomotion [url]
A. Sathya, J. Li, T. Rahman, G. Gao, H. Peng
Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (UbiComp '22) |
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Other Contributions (lightly reviewed, archival)

- 2022 A2 **Demonstration of Fibercuit: Techniques to Prototype High-Resolution Flexible and Kirigami Circuits with a Fiber Laser Engraver** [\[url\]](#)
Z. Yan*, A. Sathya*, S. Yusuf, J. Lien, H. Peng
The 35th Annual ACM Symposium on User Interface Software and Technology (UIST '22)
[*equal contribution]
🏆 **Best Demo (People's Choice)**
- 2021 A1 **Towards On-the-wall Tangible Interaction: Using Walls as Interactive, Dynamic, and Responsive User Interface** [\[url\]](#)
Z. Yan, A. Sathya, P. Carvalho, Y. Hu, A. Li, H. Peng
Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems (CHI EA '21)

Research dissemination

Press

- 2024 [404 Media](#), Would You Waste Less of Your Life Online If You Got Daily 'Attention Receipts'?
- 2023 [Adafruit Blog](#), Calico: A Wearable Robotic Assistant #WearableWednesday
[Indian Express](#), This is Calico, a tiny robot that can be your dance instructor, workout tracker, and more
[Communications of the ACM](#), A Wearable Robotic Assistant That's All Over You
[IEEE Spectrum](#), A Wearable Robotic Assistant That's All Over You
[The Verge](#), Wearable robot, why not?
[all3dp](#), Fibercuit Makes Custom Flexible Circuits With a Fiber Laser Engraver
[Hackster.io](#), Fibercuit Laser-Cuts Prototype PCBs and Forms 3D Kirigami Objects
[Hackaday](#), Fiber Laser Your Way to Flexible PCB Success
- 2022 [Hackaday](#), The Calico Wearable Rides the Rails
[itmedia.co.jp](#), 服に敷いた線路をシュッシュッポッポ 体中を移動する小型ロボット 健康状態をモニタリング
[Hackster.io](#), How to "Train" Your Sensor

Podcasts & Interviews

- 2024 [CBC Radio](#), Interviewed on CBC Radio's 'As It Happens' - a Canada-wide evening news show - about Attention Receipts
[Put on Your Best...Robot](#), Interviewed on Over Coffee about Calico
- 2022 [Huaishu Peng, Anup Sathya, Zeyu Yan // Hackster Café](#), Interviewed on Hackster Café about Calico

Teaching experience

- 2024 **Teaching Assistant, A Practice in Art & Technology (Spring 2024)**, University of Chicago, Department of Computer Science
Instructor: Ken Nakagaki
- 2023 **Teaching Assistant, Intro to Human-Computer Interaction (Fall 2023)**, University of Chicago, Department of Computer Science
Instructor: Ken Nakagaki
- 2022 **Teaching Assistant, Actuated User Interfaces and Technologies (Winter 2022)**, University of Chicago, Department of Computer Science
Instructor: Ken Nakagaki

Personal skills & volunteering

- 2015 — 2017 **President and Board Member**, Youth Development Programme, Bangalore
Led a team of 7 to manage over 35 members. Engaged with ~200 volunteers and participants over the course of 2 years to successfully execute ~30 events. Chosen to represent India at D-SEE Manila, Philippines – a project funded by the EU.

Service

- 2022 — present **Reviewer** DIS 2023, CHI 2023, DIS 2024, CHI 2024