Anup Sathya

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https://anupsathya.com

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[1]
Thesis: in-progress

2019 — 2021 **MSc in Human-Computer Interaction**, University of Maryland, College Park
Supervisor: Dr. Huaishu Peng[2]
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

2023 **core77 Design Awards 2023**, Tools Award for Fibercuit[3]

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

2024 C4

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)

C3

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]

C2

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 C1

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

Journal articles **(fully reviewed, archival)**

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)

Other Contributions **(lightly reviewed, archival)**

2022 A4

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 A3

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)

2018 A2 **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 A1 **Visual Positioning System for Automated Indoor/Outdoor navigation [url]**
A. Sathya, A. Goel, S. Padmanabhan
IEEE 2017 Region 10 Conference (TENCON '17)

Research dissemination

Press

2024 **404 Media**[4], Would You Waste Less of Your Life Online If You Got Daily 'Attention Receipts'?

2023 **Adafruit Blog**[5], Calico: A Wearable Robotic Assistant #WearableWednesday

Indian Express[6], This is Calico, a tiny robot that can be your dance instructor, workout tracker, and more

Communications of the ACM[7], A Wearable Robotic Assistant That's All Over You

IEEE Spectrum[8], A Wearable Robotic Assistant That's All Over You

The Verge[9], Wearable robot, why not?

all3dp[10], Fibercuit Makes Custom Flexible Circuits With a Fiber Laser Engraver

Hackster.io[11], Fibercuit Laser-Cuts Prototype PCBs and Forms 3D Kirigami Objects

Hackaday[12], Fiber Laser Your Way to Flexible PCB Success

2022 **Hackaday**[13], The Calico Wearable Rides the Rails

itmedia.co.jp[14], 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[15], How to "Train" Your Sensor

Podcasts & Interviews

2024 **CBC Radio**[16], Interviewed on CBC Radio's 'As It Happens' - a Canada-wide evening news show - about Attention Receipts

Put on Your Best...Robot[17], Interviewed on Over Coffee about Calico

2022 **Huaishu Peng, Anup Sathya, Zeyu Yan // Hackster Café**[18], 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

Links

1. https://www.ken-nakagaki.com/↩
2. https://huaishu.me↩
3. https://designawards.core77.com/Tools/121159/Fibercuit-DIY-Aesthetically-Pleasing-Flexible-and-Kirigami-Circuits↩
4. https://www.404media.co/would-you-waste-less-of-your-life-online-if-you-got-daily-attention-receipts/↩
5. https://blog.adafruit.com/2023/06/21/calico-a-wearable-robotic-assistant-wearablewednesday/↩
6. https://indianexpress.com/article/technology/science/calico-robot-dance-instructor-workout-tracker-8674910/↩
7. https://cacmb4.acm.org/news/273994-a-wearable-robotic-assistant-thats-all-over-you/fulltext↩
8. https://spectrum.ieee.org/amp/wearable-robotics-2659994768↩
9. https://www.theverge.com/2023/6/19/23766274/wearable-robot-why-not↩
10. https://all3dp.com/4/fibercuit-takes-electronic-prototype-creation-to-the-next-level/↩
11. https://www.hackster.io/news/fibercuit-laser-cuts-prototype-pcbs-and-forms-3d-kirigami-objects-76011c6beda6↩
12. https://hackaday.com/2022/10/26/fiber-laser-your-way-to-flexible-pcb-success/↩
13. https://hackaday.com/2022/09/14/the-calico-wearable-rides-the-rails/↩
14. https://www.itmedia.co.jp/news/articles/2209/07/news059.html↩
15. https://www.hackster.io/news/how-to-train-your-sensor-e1ef972c748f↩
16. https://www.cbc.ca/listen/live-radio/1-2-as-it-happens/clip/16071898-hush-money-money↩
17. https://podcasts.apple.com/us/podcast/put-on-your-best-robot/id896305828?i=1000653175103↩
18. https://www.youtube.com/watch?v=TPu8ORrs0Ic↩