Anupam Sobti Ph.D.

https://anupamsobti.github.io

Work Experience

Plaksha University SAS Nagar, Punjab
Assistant Professor 2023 - Present

- **Teaching:** Taught courses in Deep Learning, Embedded Systems. The courses were well received by the students both in terms of appreciation of the rigor and effectiveness of delivery.
- **Research:** Leading a research group in geospatial and embedded perception for agriculture and urban planning with collaborators in agriculture, urban climate and water security.
- **Institution Building:** Being a founding faculty, I also lead the technology enablement of the campus which includes various administrative responsibilities. i) I built the entire software development and product management capabilities in the team by hiring appropriately. ii) I undertook various initiatives for the institute, e.g., setting up an ERP platform (in progress), designing the procurement software, adding AI features to the Learning Management System, etc. iii) Maintaining the IT infrastructure and setting up new facilities including a new hostel, an HPC cluster (ongoing) and debugging network issues.
- **Entrepreneurship:** To translate some of the research outcomes to the real world, I've also recently started a company, The Urban Eye focussed on geospatial intelligence for city hygiene.

Microsoft Research India Bangalore
Postdoctoral Researcher 2021-Present

- Worked with the group - Societal Impact through Cloud and AI (*SCAI*) collaborating with various industries and startups on applied machine learning problems for sustainability

Qualcomm India Pvt Ltd Bangalore, India
Product and Test Engineer 2013-16

- I setup and lead the memory failure analysis team for Qualcomm Bangalore
- Collaborated with teams across Bangalore, Singapore and USA for silicon bring-up.
- Worked on MBIST and ATPG test development and simulation for multiple production SoCs
- Took various initiatives for test-time reduction on production patterns
- Was awarded 5 Qualstars for outstanding contributions to the team

Education

Indian Institute of Technology Delhi New Delhi, India
Ph.D. 2016 - 22

- Thesis: Towards robust and efficient embodied visual perception
  I worked with the assistive technology group at IIT Delhi to make vision based devices for independent mobility of the visually impaired individuals.
- Advisors: Prof M. Balakrishnan and Prof. Chetan Arora

BITS Pilani (WILP) Bangalore
M.Tech. in Microelectronics 2014-16

- GPA: 8.93

Netaji Subhas Inst of Technology New Delhi, India
B.E. in Electronics and Communication Engineering 2009-13

- Grade: 79.4%

Publications

1. Kumar, Yogendra, and **Anupam Sobti**. 2025. Geospatial Active Learning for Efficient Data Annotation: A Case Study on Cool Roof Detection. In Proceedings of the ACM Conference on Computing and Sustainable Societies (COMPASS).
2. Gupta, Moti Rattan, and **Anupam Sobti**. "Time2Agri: Temporal Pretext Tasks for Agricultural Monitoring." arXiv preprint arXiv:2507.04366 (2025).
3. Roy, M., Balloli, V., **Sobti, A.**, Iyengar, S., Kalyanaraman, S., Ganu, T., Nambi, A. (2025). EnCortex: A General, Extensible and Scalable Framework for Decision Management in New-age Energy Systems. arXiv preprint arXiv:2503.06959.
4. Varchita Lalwani, **Anupam Sobti**, Vishal Garg. What's Up On The Roof: Tracking Cool Roofs in India with Satellite Imaging. *ACM Journal on Computing and Sustainable Societies*, 2024.
5. Sambal Shikhar, Rajiv Ranjan, Aman Sa, Anshika Srivastava, Yash Srivastava, Dinesh Kumar, Shashank Tamaskar, **Anupam Sobti**. Evaluation of computer vision pipeline for farm-level analytics: A case study in Sugarcane. *ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies (COMPASS)*, 2024.
6. Sambal Shikhar, **Anupam Sobti**. Label-free Anomaly Detection in Aerial Agricultural Images with Masked Image Modeling. *IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshop on Agriculture Vision*, 2024.
7. Tanmaey Gupta, **Anupam Sobti**, Akshay Nambi. PressureML: Modelling Pressure Waves to Generate Large-Scale Water-Usage Insights in Buildings. *Proceedings of the 10th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation*, 2023.
8. Millend Roy, Akshay Nambi, **Anupam Sobti**, Tanuja Ganu, Shivkumar Kalyanaraman, Shankar Akella, Jaya Subha Devi, SA Sundaresan. Reliable Energy Consumption Modeling for an Electric Vehicle Fleet. *ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies (COMPASS)*, 2022.
9. **Anupam Sobti**, Vaibhav Mavi, Chetan Arora, M Balakrishnan. VmAP: A Fair Metric for Video Object Detection. *MM '21: The 29th ACM International Conference on Multimedia*, 2021.
10. Rajesh Kedia, **Anupam Sobti**, Mukund Rungta, Sarvesh Chandoliya, Akhil Soni, Anil Kumar Meena, Chrystle Myrna Lobo, Richa Verma, M Balakrishnan, Chetan Arora. MAVI: Mobility assistant for visually impaired with optional use of local and cloud resources. *2019 32nd International Conference on VLSI Design and 2019 18th International Conference on Embedded Systems (VLSID)*, 2019.
11. **Anupam Sobti**, M Balakrishnan, Chetan Arora. Multi-sensor energy efficient obstacle detection. *2019 22nd Euromicro Conference on Digital System Design (DSD)*, 2019.
12. **Anupam Sobti**, Chetan Arora, M Balakrishnan. Object detection in real-time systems: Going beyond precision. *2018 IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2018.
13. **Anupam Sobti**, Sneha Revankar, Kushal Kamal. Multiple mode testing in a vector memory restricted test environment. *US Patent App. 15/081,093*, 2017.

Projects

Geospatial tracking of urban infrastructure and environmental resources
Plaksha University 2023-Present

Agricultural Foundation Models through geospatial data
Plaksha University 2023-Present

Non-intrusive monitoring of water usage in residential buildings
Microsoft Research India 2023

Energy Markets modeling for RL-based control
Microsoft Research India 2023

Modeling of Electric Bus fleets
Microsoft Research India 2021

Mobility Assistance for Visually Impaired
Assistech Lab, IIT Delhi 2016-21

Hardware Projects

- Batteryless remote control system
- Digital Color Organ
- CPLD Dice Game
- Wireless Home Monitoring System (BTP)
- Electronic Ludo

Awards and Honors

- **First Place**, Tensilica Hackathon, 32nd International Conference on VLSI Design
- **Outstanding Teaching Assistance Awards**, Embedded Systems and Digital Logic Design, Indian Institute of Technology Delhi
- **Scholarship**, Delhi University for being amongst the top 10% students during B.E. at Netaji Subhas Institute of Technology
- **Dr JK Pal Memorial Best Student Award**, IEEE Delhi Section 2012
- **Ramanujan Award**, for outstanding performance in Mathematics at NSIT, Delhi

Skills

Programming: `Python`
Languages: English, Hindi, Punjabi (spoken)
Others: Data Structures, Hardware Design (chip level and board level), Web Development

Academic Services

Program Committee Member for: *CODS COMAD 2023*,
ACM Multimedia Videos and Demos Track 2023,
ICVGIP 2024

Reviewer for: *IEEE WACV 2020, 2021, 2024*,
IETE Journal of Education,
ICVGIP 2021, 2023
ACM Computing Survey

Others

Managing Self and Others: Delhi state trainer for the program on heartfulness enabled leadership mastery (HELM) - trained more than 50 trainers for the state

Cycling, Table Tennis