

Mallesham Dasari

Curriculum Vitae

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Current Employment & Education

- 01/22–Present **Postdoctoral Researcher**, Carnegie Mellon University, Pittsburgh, PA, USA.
Advisor (s): Anthony Rowe, Srinivasan Seshan
- 08/16–12/21 **PhD**, *Computer Science*, Stony Brook University, Stony Brook, NY, USA.
Advisor: Samir R. Das
Mentor: Aruna Balasubramanian
- 12/12–12/14 **MTech**, *Computer Science*, Osmania University, Hyderabad, India.
Advisor: Shyamala Kattula
- 08/08–05/12 **BE**, *Computer Science*, Osmania University, Hyderabad, India.

Past Work Experience

- 05/20–12/21 **Research Intern**, *NEC Labs*, Princeton, NJ, USA.
Advisor: Karthikeyan Sundaresan
Topic: Multi-User Localization and Tracking using Visual and Wireless (RF) Sensing.
- 07/19–09/19 **Research Intern**, *Bell Labs*, Cambridge, UK.
Advisor: Fahim Kawsar
Topic: Urban City Sensing using WiFi Management Frames on Wearable Devices.
- 05/18–08/18 **Research Intern**, *AT&T Labs*, Bedminister, NJ, USA.
Advisor: Vijay Gopalakrishnan
Topic: Elastic Scaling of Virtual Network Functions in LTE/5G Cellular Networks.
- 05/17–04/18 **Research Intern**, *HP Labs*, Palo Alto, CA, USA.
Advisor: Kyu-Han Kim
Topic: Data-driven Video Quality Optimization in Enterprise WiFi.
- 06/14–12/15 **Senior Software Engineer**, *Uurmi Systems Pvt. Ltd*, Hyderabad, India.
Topic: Development of Network Stack (MAC and Routing Protocols) in Embedded Linux Kernel.
- 05/12–05/14 **Software Engineer**, *Uurmi Systems Pvt. Ltd*, Hyderabad, India.
Topic: Hardware Acceleration of H.264 Video Codec in DSP Processors.
- 01/12–05/12 **Engineering Intern**, *Uurmi Systems Pvt. Ltd*, Hyderabad, India.
Topic: Designing Fast Motion Estimation Algorithms for H.264 Video Compression.
- 05/11–08/11 **Software Development Intern**, *IDRBT*, Hyderabad, India.
Topic: Computation Offloading of Banking Applications on Distributed Grid Computing Servers.

Teaching Experience

- Co-Instructor CSE 570: **Wireless and Mobile Networks**, Stony Brook University, Spring 2020.
Course content: Fundamental Principles of Wireless and Mobile Computing Technologies.
- Instructor WISE 380: **Women in Science & Engineering**, Stony Brook University, Spring & Fall 2019.
Course content: A seminar type course focused on teaching undergraduate women students about research methodologies in STEM disciplines, including literature reviews, research design, data collection, and quantitative analysis.
- Teaching Assistant CSE 381: **Computer Game Programming**, Stony Brook University, Spring 2017.
CSE 101: **Introduction to Computer Science**, Stony Brook University, Fall 2016.

PUBLICATIONS

- ≈2023 Mosaic: An Internet Accessible Scene Capture for 3D Telepresence
Mallesham Dasari, Tao Jin, Connor Smith, Kittipat Apicharttrisor, Anthony Rowe
Srinivasan Seshan
Under Review
- ≈2023 Hybrid Conference Experiences in ARENA
Mallesham Dasari, Edward Lu, Mike Farb, Nuno Pereira, Ivan Liang, Anthony Rowe
Under Review.
- 2023 RoVAR: Robust Multi-Agent Tracking through Dual-Layer Diversity in Visual and RF Sensing
Mallesham Dasari, Ramanujan K. Seshadri, Karthikeyan Sundaresan, Samir R. Das
ACM IMWUT/UbiComp (Conference on Interactive, Mobile, Wearable and Ubiquitous Technologies).
- 2023 Scaling VR Video Conferencing
Mallesham Dasari, Edward Lu, Mike Farb, Nuno Pereira, Ivan Liang, Anthony Rowe
IEEE VR 2023 (Conference on Virtual Reality and 3D User Interfaces).
- 2022 Cyclops: An FSO-based Wireless Link for VR Headsets
Himanshu Gupta, Max Curran, Jon Longtin, Torin Rockwell, Kai Zheng, **Mallesham Dasari**
ACM SIGCOMM (Conference on Data Communications).
- 2022 Swift: Adaptive Video Streaming Using Layered Neural Codecs
Mallesham Dasari, Kumara Kahatapitiya, Samir R. Das, Aruna Balasubramanian, Dimitris Samaras
USENIX NSDI (Conference on Networked Systems Design and Implementation).
- 2022 The City as a Personal Assistant: Hyper-local Conversational Agent for Serving Spatio-temporal Events of a Neighbourhood
Utku Gunay Acer, Marc Van Den Broek, Chulhong Min, **Mallesham Dasari**, Fahim Kawsar
ACM IMWUT/UbiComp (Conference on Interactive, Mobile, Wearable and Ubiquitous Technologies).
- 2021 Internet Video Delivery using Neural Video Codecs
Mallesham Dasari, Samir R. Das
ACM MobiCom S3 (Student Workshop at Conference on Mobile Computing and Networking).
- 2021 dcSR: Practical Video Quality Enhancement Using Data-Centric Super Resolution
Duin Baek, **Mallesham Dasari**, Samir R. Das, Jihoon Ryoo
ACM CoNEXT (Conference on Emerging Networking Experiments and Technologies).
- 2021 L3BOU: Low Latency, Low Bandwidth, Optimized Super-Resolution Backhaul for 360-Degree Video Streaming
Ayush Kumar, John Murray, **Mallesham Dasari**, Michael Zink, Klara Nahrstedt
IEEE ISM (Conference on Multimedia).
- 2020 PARSEC: Streaming 360° Videos using Super-Resolution
Mallesham Dasari, Arani Bhattacharya, Santiago Vargas, Pranjal Sahu, Aruna Balasubramanian, Samir R. Das
IEEE INFOCOM (Conference on Computer Communications).
- 2019 Advancing User Quality of Experience in 360-Degree Video Streaming
Sohee Park, Arani Bhattacharya, Zhibo Yang, **Mallesham Dasari**, Samir R. Das, Dimitris Samaras
IFIP Networking (Conference on Networking).
- 2019 Multiple transmitter localization under time-skewed observations
Mohammad Ghaderibaneh, Mallesham Dasari, Himanshu Gupta
IEEE DySPAN (Conference on Dynamic Spectrum Access Networks).
- 2019 Spectrum Protection from Micro Signals with Distributed Spectrum Patrolling
Mallesham Dasari, Mohammad Bershgal Atique, Arani Bhattacharya, Samir R. Das
PAM (Conference on Passive and Active Network Measurements).

- 2018 Impact of Device Performance on Mobile Internet QoE
Mallesham Dasari, Arani Bhattacharya, Santiago Vargas, Aruna Balasubramanian, Samir R. Das, Mike Ferdman
ACM IMC (Conference on Internet Measurements).
- 2018 Scalable Ground-truth Annotation for Video QoE Modeling in Enterprise WiFi
Mallesham Dasari, Christina Vlachou, Shruti Sandhya, Kyu-Han Kim, Samir R. Das
ACM/IEEE IWQoS (Conference on Quality of Service).
- 2018 Understanding User Perceived Video Quality using Multipath TCP over Wireless Network
Sohee Kim Park, Arani Bhattacharya, **Mallesham Dasari**, Samir R. Das
IEEE Sarnoff (Sarnoff Symposium).
- 2017 Poster: Demystifying Hardware Bottlenecks in Mobile Web Quality of Experience
Mallesham Dasari, Conor Kelton, Javad Nejati, Aruna Balasubramanian, Samir R. Das
ACM SIGCOMM Posters and Demos.

Thesis

- 2021 Improving the Quality of Experience in Multimedia Systems
(Departmental Nomination for ACM SIGMM Outstanding PhD Thesis Award)

Patents

- 2019 Estimating Video Quality of Experience
Mallesham Dasari, Shruti Sandhya, Christina Vlachou, Kyu-Han Kim; US Patent 15884857.
- 2018 Systems and Methods for Motion Estimation for Coding a Video Sequence
Mallesham Dasari, Himanshu Sindwal, Naresh Vattikuti, SRV Maddela; US Patent 9930357.

Professional Activities

- 2023 Technical Program Committee: ACM CoNEXT, ACM IMC, ACM MMSys
Reviewer: USENIX NSDI, ACM/IEEE Transactions on Networking
PhD Forum Co-Chair: IEEE WoWMoM
- 2022 Technical Program Committee: ACM IMC, ACM MMSys
Reviewer: ACM CoNEXT, ACM MM, ACM IMWUT/UbiComp
Artifact Evaluation Committee: ACM SIGCOMM
Social Media Chair: IEEE Pervasive Computing
- 2021 Reviewer: ACM MM, ACM IMWUT/UbiComp
Program Co-Chair: ACM SMS MobiSys Workshop,
Organizer: ACM SIGMOBILE Community Engagement Program (Granted \$10,000 Award)
- 2020 & Before Reviewer: ACM Transactions on Sensor Networks, ACM/IEEE Transactions on Networking,
IEEE Transactions on Mobile Computing, IEEE Pervasive Computing, IEEE Internet Computing
Program Co-Chair: S3 Workshop ACM MobiCom, Graduate Research Conference at SBU
Artifact Evaluation Committee: ACM SIGCOMM

Academic Leadership

- 2020 Acting President of Graduate Student Organization, Stony Brook University.
Responsibility: Leading an organization of $\approx 10,000$ graduate students with \$625,000 funds across more than 50 departments on campus.
Key achievement: Played a significant role in eliminating fees for all full-time PhD students.
- 2019 Elected Vice President of Graduate Student Organization, Stony Brook University.
Responsibility: Managing student leaders from different departments, organizing events and initiating new activities for graduate students.
Key accomplishment: Created a special interest group on diversity, equity, and inclusion (SIGDEI) to tackle the issues faced by underrepresented students.
- 2018 **Founding** President of CS Graduate Student Organization, Stony Brook University.

Mentorship Experience

- 2022 Edward Lu - 1st Year PhD Student at Carnegie Mellon University.
Project: Hybrid Rendering of Massive Mesh Models for Augmented Reality.
- Tao Jin - 2nd Year PhD Student at Carnegie Mellon University.
Project: Volumetric Video Streaming.
- Syeda Sheherbano Rizvi - MS Student at Carnegie Mellon University.
Project: Scaling VR Video Conferencing.
- OurCS Mentor: Taught Computer Science Research Methodology to Undergraduate Women Students at a two-day Workshop at Carnegie Mellon University.
- 2021 Scott Burgert & Dylan Scott - Undergraduate Students at Stony Brook University.
Project: Multiplayer AR Gaming using ARCore Tracking Engine.
- Nihal Goalla - MS Student at Stony Brook University.
Project: Video Streaming using Neural Codecs.
- Ayush Sarkar & John Murray - MS Students at UIUC and UMASS Amherst.
Project: 360-degree Video Streaming using Super-Resolution Backhaul.
- 2020 & Before Gargi Saha, Caeley Kardell, Rohit Bhal, Vipul Ghandi, Arpita Abrol, Rhea Manjrekar, Binayak Das, Aakash Deep - MS & UG Students at Stony Brook University.

Seminars and Talks

- 11/2022 Networking Challenges in the Pursuit of Immersive Telepresence, Northeastern University.
- 11/2022 Networking Challenges in the Pursuit of Immersive Telepresence, Boston University.
- 04/2022 Adaptive Video Streaming using Neural Video Codecs, University of Texas Austin.
- 04/2022 Adaptive Video Streaming with Layered Neural Codecs, USENIX NSDI Conference, Seattle.
- 03/2022 Recent Advances in Internet Video Delivery, Arizona State University.
- 10/2021 Video Streaming using Neural Video Codecs, ACM S3 Workshop at MobiCom Conference.
- 02/2021 Deep Video Compression, Graduate Research Day at Stony Brook University.
- 04/2020 Streaming 360-Degree Videos using Super-Resolution, IEEE INFOCOM Conference.
- 03/2019 Spectrum Protection from Micro Transmissions, PAM Conference, Patagonia, Chile.
- 11/2018 Impact of Device Performance on Mobile Internet QoE, ACM IMC Conference, Boston.
- 06/2018 Scalable Ground-truth Annotation in Video QoE Modeling, IWQoS Workshop, Banff, Canada.
- 18/2017 Demystifying Hardware Bottlenecks in Web QoE, ACM SIGCOMM Posters Session, UCLA.
- 03/2016 Introduction to Computer Programming, Google IgniteCS Program for Middle School Students.
- 05/2015 Industry Speaker: Challenges of Mobile Adhoc Networks, IEEE ICACCI, Kerala, India.

Selected Honors and Scholarships

- 2022 Nominated for ACM SIGMM outstanding PhD thesis award.
- 2022 Best demo award at CONIX an SRC center review workshop at Carnegie Mellon University.
- 2021 Best presentation award at ACM MobiCom S3 Workshop.
- 2021 Best paper award at IEEE International Symposium on Multimedia (ISM).
- 2020 Finalist of three minute (3MT) presentation of thesis competition at Stony Brook University.
- 2019 Jerrold L. Stein emerging leader award at Stony Brook University for governing student body.
- 2017 Selected to participate in Student Research Competition (SRC) at ACM SIGCOMM conference.
- 2015 Innovation award from Uurmi Systems Pvt. Ltd for x264 video codec hardware acceleration.
- 2012 Ministry of Human Resource Development (MHRD) scholarship.
- 2008 Osmania University scholarship with full college tuition waiver.
- 2008 High school valedictorian of student body.