Monsij Biswal

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EDUCATION

MS/PhD, Electrical and Computer Engineering, University of California, Santa Barbara 2020-Present
- *Advisor:* Prof. Kenneth Rose
- *Major:* Communications *Minor:* Signal Processing *Award:* Departmental Funding GPA: 3.91/4
- *Relevant Courses:* Image Processing, Signal Compression, Optimal Estimation and Filtering

B.Tech, Electronics and Communication Engineering, National Institute of Technology 2016-2020
- *Awards:* DAAD WISE Scholarship, MITACS Globalink Research Intern Award GPA: 9.55/10
- *Relevant Courses:* Soft Computing, Antenna and Propagation, Software Engineering

TECHNICAL SKILLS

- **Programming & Frameworks:** C++, C, Python, PyTorch
- **Software:** MATLAB, Inkscape

PUBLICATIONS

- **Monsij Biswal**, Kruthika Koratti Sivakumar, Ting-Lan Lin, Kenneth Rose. "Transform Domain Temporal Prediction for Dynamic Point Cloud Compression." in 25th IEEE International Workshop on MultiMedia Signal Processing (MMSP). IEEE, 2023.
- **Monsij Biswal**, Aniruddha Chandra, Aniq Ur Rahman et al. "On the characterization of beam misalignment in outdoor-to-indoor 60 GHz mmWave channel." in 15th European Conference on Antennas and Propagation (EuCAP). IEEE, 2021.
- Michael Lutz, **Monsij Biswal**. "Supervised Noise Reduction for Clustering on Automotive 4D Radar." in IEEE Symposium Series on Computational Intelligence (SSCI). IEEE, 2021.
- Aniq Ur Rahman, **Monsij Biswal**. "Error-tolerant Beam Steering of mmWave Antennas by Trajectory Estimation of Highway Vehicles." in 11th International Conference on Communication Systems & Networks (COMSNETS). IEEE, 2019.

RESEARCH EXPERIENCE

Graduate Student Researcher, Signal Compression Lab, UCSB Present
- Working towards compressing VR180 stereoscopic videos with geodesic motion compensation.
- Experience in video coding using HEVC with 360Lib.

Research Scientist Intern, Amazon Prime Video, Seattle June 2024 - September 2024
- Improved the performance of an existing video post-processing approach for better rate-distortion performance.
- Developed subjective study interface for collecting subjective test results with 4K UHD HDR content.

ATG Imaging Research Intern, Dolby Laboratories, Sunnyvale June 2023 - September 2023
- Explored the emerging trend of implicit neural representations for video representation and compression.
- Researched green field ideas to integrate data hiding within deep neural models representing videos.

Summer Research Intern, Scientific Computing Group, UCSB June 2022 - August 2022

Project: On the exploration of training networks on tiles of satellite images
- Leveraged the performance of tile-based training to achieve near state-of-the-art results for semantic image segmentation.
- Investigated the effects of varying tile size, data augmentation and network architecture on training complexity and overall classification score.

Mentor, Research Mentorship Program, UCSB June 2021 - August 2021
Project: Supervised Noise Reduction for Clustering on Automotive 4D Radar
- Mentored and collaborated with a junior researcher on the removal of noisy radar returns prior to clustering using density based algorithms.
- Utilized supervised learning to predict noisy points on 4D radar point clouds by leveraging historical data.
- Co-authored research article that has been published at IEEE SSCI 2021.

Research Intern, Christian Albrechts Universität zu Kiel, Germany May 2019 - July 2019
Project: Custom Neural Network Training Function for Optical Transmission System
- Analyzed various neural network training algorithms for equalizing a higher order modulation format in an optical transmission system.
- Implemented custom training function and presented research findings to the group.

TEACHING EXPERIENCE (TA)

AY 2024-25
- ECE 5: Introduction to Electrical and Computer Engineering
- ECE 139: Probability and Statistics

AY 2023-24
- ECE 5: Introduction to Electrical and Computer Engineering
- ECE 139: Probability and Statistics

AY 2022-23
- ECE 3: Introduction to Electrical Engineering
- ECE 10B/BL: Fundamentals of Analog and Digital Circuits

AY 2021-22
- ECE 3: Introduction to Electrical Engineering
- CMPSC 111: Introduction to Computational Science
- ECE 139: Probability and Statistics
- PHYS 129L: Introduction to Scientific Computation

AY 2020-21
- ECE 15A: Fundamental of Logic Design
- ECE 139: Probability and Statistics
- CMPSC 24: Problem Solving with Computers II

LEADERSHIP EXPERIENCE

Vice-President, ECE Graduate Student Association, UCSB September 2021 - December 2024
- Lead a team of 4 graduate students by coordinating logistical tasks and delegating responsibilities.
- Facilitated group discussion and meetings to plan research seminars, lightning talks and social hours.

Co-chair, Beyond Academia, UCSB August 2021 - March 2022
- Collaborated with multiple teams for organizing a career exploration conference comprising of 200+ attendees and 30+ presenters.

Last updated : July 2025