



Minority University Research and Education Project (MUREP)

Institution: Fayetteville State University

City/State: Fayetteville, NC

Award Name: MUREP Partnership Learning Annual Notification (MPLAN)

Award Number: N/A

Title: New Tech for Storm Tracking with Machine Learning/ STTR: T10.01 Autonomous Target Identification and Sensor Optimization

PI: Dr. Sambit Bhattacharya

PI Email: N/A

Award Fiscal Year: FY2024

Summary:

We propose to develop autonomous storm detection and tracking software with Machine Learning models that will utilize advanced CMOS image sensors (CISs) for next-generation lightning mappers. This technology addresses the limitations of current Low Earth Orbit (LEO) lightning mappers, which are hindered by bulky analog components and fixed detection strategies. Our software when working in conjunction with the advanced imaging sensors will reduce instrument size, weight, and power consumption while enhancing dynamic imaging capabilities to improve storm monitoring efficiency and accuracy.