



Machine Learning Application for Satellite Image Analysis: Methods and Case Studies

Vinay Viswambharan, Shairoz Sohail, and Sangeet Mathew
Esri Image Team and Esri A.I. Team



May 30, 2019 (Thursday), 5:30 PM
Arms Laboratory, Sharp Lecture Hall
California Institute of Technology, Pasadena, CA 91109

METRO LA SECTION GRSS CHAPTER OFFICERS

Kevin Romero, Northrop Grumman
Chair

Dr. Rashmi Shah, JPL
Vice Chair

Dr. Mariko Burgin, JPL
Treasurer

Scott Almond, Northrop Grumman
Secretary

Dr. Paul Rosen, JPL
Past Chapter Chair

Dr. Shenyue Jia, Chapman University
IEEE YP Outreach & Education Chair

METRO LA SECTION EXECUTIVE COMMITTEE

Malak Shirkhani, P.E., SCE
Section Chair

Yvonne Marchand, Cordoba
Vice Chair

Ray Harlow, Young & Co.
Treasurer

Katy Shirkhani, LAUSD
Secretary

Eremita Miranda, P.E., SCE
Education Chair

AGENDA

5:30 pm – Refreshments
6:00 pm – Announcements
6:10 pm – Lecture
7:00 pm – Discussion
7:30 pm – Adjournment

Remote sensing specialists from academia and industry have been using the latest progress in artificial intelligence to find more efficient and accurate methods to extract knowledge from the huge collection of satellite images accumulated in the past 30 years. In this talk, members from Esri's imagery and A.I. teams will explain the technical details of using cutting edge machine learning and deep learning methods to analyze multi-source remote sensing data. The methods will be presented in an intuitive way and accessible to those with a light coding background. They will present use cases of using machine learning tools on Esri's collection of remote sensing imagery to solve real world problems such as quickly detecting polluted swimming pools, identifying the unhealthy palm trees, and detecting damaged structures and roads post disaster. The presenters will also share their experiences about working at Esri and where the future of A.I and remote sensing is headed.

Speaker: Vinay Viswambharan



Vinay Viswambharan is a product manager on the Imagery team at Esri, with a zeal for remote sensing and everything imagery. He has been working in geospatial industry for 20 years. He is also very active in developing case study classes for the Esri LearnGIS and MOOC program.

Speaker: Shairoz Sohail



Shairoz Sohail is a data scientist on Esri's GeoAI team. He works mainly on building deep learning models for aerial and satellite imagery, LiDAR, drone feeds, and live video. He routinely solves problems from object detection and tracking, image classification, semantic segmentation, NLP, and other areas.

Speaker: Sangeet Mathew



Sangeet Mathew is a senior software engineer at Esri. He is an experienced Product Engineer. His work focuses on Software QA, Programming Languages, Agile Methodologies, Software Design & Machine Learning. Certified in A.I. & Deep Learning.

Visit Us for future activity and resources from IEEE Metro LA GRSS Section: <http://sites.ieee.org/metrola-grss/>

Directions and Parking: Parking on the Caltech campus is accessible from Michigan Avenue, south of Del Mar Avenue. Parking is free after 5 pm. Arms Lab location: <http://www.caltech.edu/map/charles-arms-laboratory-of-the-geological-sciences>

Reservation: Please RSVP with your IEEE membership # to la.grss.officers@ieee.org. You are welcome to bring your spouse as a guest. Non-members can go to www.ieee.org/join, then send your membership number.