

CHINTAN B. MANIYAR

Department of Geography, University of Georgia, Athens, GA, USA, 30602
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EDUCATION

PhD – Geography (Ocean Color Remote Sensing) (GPA 3.9/4.0*) *May 2025 (expected)*

Emphasis: *Global Water Quality, Biophysical & Bio-optical Modelling, Remote Sensing & Geo-AI*

Department of Geography, The University of Georgia at Athens (UGA), GA, USA

Master of Science – Artificial Intelligence (GPA 3.9/4.0*) *May 2025 (expected)*

Thesis: *“Modelling Sea Surface Salinity using Remote Sensing and Spatially Explicit Machine Learning”*

Institute of Artificial Intelligence, The University of Georgia at Athens (UGA), GA, USA

Master of Technology – Remote Sensing & GIS (GPA 3.7/4.0) *Graduated, July 2021*

Thesis: *“Automated Feature Extraction from High Resolution Satellite Imagery using Object-based Fully Convolutional Networks and Cyclical Learning”* [[Thesis Link](#)]

Indian Institute of Remote Sensing (IIRS), Indian Space Research Organization (ISRO), India

Bachelor of Technology – Computer Engineering (GPA: 4.0/4.0) *Graduated, May 2019*

Thesis: *“Machine Learning based Text Classification for Document Summarization”* [[Project Report Link](#)]

Charotar University of Science and Technology (CHARUSAT), Gujarat, India

SKILLS

- Programming: Python, C, C++, R
- Image Processing: OpenCV, Pillow
- Natural Language Processing: NLTK
- ArcGIS, SNAP, ERDAS, ENVI, QGIS, GDAL
- Machine/Deep Learning: fastai, sklearn, keras, pytorch
- Remote Sensing, Statistics, Data Analysis, Google Earth Engine
- Software/Web Development: PHP, MySQL, JavaScript
- Web Scraping, Version Control – GitHub & BitBucket

PROFESSIONAL EXPERIENCE

Graduate Teaching Assistant *Aug 2021 – Present*

University of Georgia, Athens, GA, USA

- *Fall 2023:* GEOG 6590: Geospatial Artificial Intelligence Lab;
- *Fall 2022/Spring 2023:* GEOG 1111L: Physical Geography Lab; [[Student Feedback](#)]

High Performance Computing Intern *Jun 2022 – Aug 2022*

United States Dept. of Agriculture - ARS/Mississippi State University, MS, USA

- Using deep learning and proximal sensing to identify invasive turf weeds from RGB turf images
- Biophysical irrigative modelling of tomato and melon crops using UAV hyperspectral images

Remote Sensing AI Engineer *Freelance/Contract*

BeZero Carbon, London, UK

- Live Forest Monitoring and change detection, time series decomposition and satellite image super-resolution

Machine Learning Intern *Oct 2020 – Feb 2021*

Scanta, San Francisco, CA, USA

- Developing NLP-based solutions for ChatBot security in websites

Applied Research Intern (Machine Learning & NLP) *Dec 2018 – Jun 2019*

Language Lab, Indian Institute of Technology, Mumbai, India

- Automated laborious and manual task of text categorization, from 3 days to 30 mins using ML/NLP
- Sampled 5 million tuples of textual data, led a team of 4, oversaw client interactions and recruitment

Remote Sensing and Spectroscopy Lab, University of Georgia, GA, USA

- Data mining and analysis of remote sensing, location and social media data within CyanoTRACKER
- Developed Google Earth Engine dashboards for global water quality analyses using Sentinel 2/3 imagery

PUBLICATIONS

4. **Maniyar, C. B.**, Kumar, A. & Mishra, D.R. (2022). Continuous and Synoptic Assessment of Indian Inland Waters for Harmful Algae Blooms. *Harmful Algae*, 111, 102160.
<https://doi.org/10.1016/j.hal.2021.102160>
3. **Maniyar, C. B.** & Kumar, A. (2021). Generative Adversarial Network for Cloud Removal from Optical Temporal Satellite Imagery. *Soft Computing for Problem Solving* (pp. 481-491). Springer.
https://doi.org/10.1007/978-981-16-2712-5_39
2. **Maniyar, C.B.** & Kumar, M. (2021). Deep Learning based Improved Automatic Building Extraction from OpenSource High Resolution Unmanned Aerial Vehicle (UAV) Imagery. *Unmanned Aerial Systems in Geomatics* (Preprint) <https://doi.org/10.1002/essoar.10509592.1>
1. **Maniyar, C. B.**, Bhatt, C. M., Pandit, T. N. & Yadav, D. H. (2019). CHEERBOT: A Step Ahead of Conventional ChatBot. *Next-Generation Wireless Networks Meet Advanced Machine Learning Applications* (pp. 306-322). IGI Global <http://doi.org/10.4018/978-1-5225-7458-3.ch013>

CONFERENCE PRESENTATIONS

15. Srivastava, D., Matese, A., **Maniyar, C.B.**, Toscano, P., Di Gennaro S.F., “Assessment of Suitable Vegetation Indices Calculated from Remote and Proximal Sensing to Discriminate Irrigation Treatments in Tomato and Melon Crops” *14th European Conference on Precision Agriculture*, Bologna, Italy, June 2023 [Abstract Accepted]
14. **Maniyar, C.B.**, Rudresh, M., Kumar, A. and Mishra, D.R., “Modelling Total Suspended Sediments in the Belize Coastal Lagoon using Meta-Learning and Multi-Sensor Remote Sensing” *PECORA 22*, Colorado, USA, October 2022 [[PPT](#)]
13. Mathis, J. E., **Maniyar, C.B.**, Mishra, D.R., Dubey, B., Jambeck, J. “Elucidating Patterns of Urban Plastic Pollution in Mumbai using Remote Sensing Technologies” *7th International Marine Debris Conference*, Busan, Korea, September 2022 [PPT available on request]
12. **Maniyar, C.B.**, Srivastava, D., Matese, A. and Samiappan, S., “Neural Network-based High Throughput Field Phenotyping of Horticultural Crops using Hyperspectral UAV Imagery” *MSU/USDA-ARS Research Symposium Summer 2022*, Mississippi State University, USA, August 2022 [[Poster](#)]
11. **Maniyar, C.B.** and Mishra, D.R., “Multi-Sensor based Global Forecasting of Cyanobacterial Harmful Algal Blooms using Deep Learning with Long Short-Term Memory” *IEEE International Geosciences and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, July 2022 [[Paper](#) | [PPT](#)]
10. **Maniyar, C.B.** and Mishra, D.R., “Geo-AI for Forecasting Anthropogenic Harmful Algae Blooms using Sentinel-3 and Open Social Media” *ASPRS Virtual Annual Meeting 2022*, March 2022 [[PPT](#) | [YouTube](#)]
9. **Maniyar, C.B.**, Kelly, J., Mishra, D.R., “Machine Learning Methods for Sea Surface Salinity Estimation in the Georgian Estuaries using Satellite-based Reflectance Data” *American Association of Geographers (AAG) Annual Meeting 2022*, New York, USA, February 2022 [[PPT](#)]
8. **Maniyar, C.B.**, Kumar, M. “Improved Automated Building Extraction from High Resolution Remote Sensing Imagery using Time-Optimized Deep Learning Techniques” *American Geophysical Union (AGU) Fall Meeting 2021*, New Orleans, USA, December 2021 [[Abstract](#) | [Poster](#)]
7. **Maniyar, C.B.**, Kumar, A. & Mishra, D.R., “Frequent Synoptic Monitoring of Cyanobacterial Harmful Algal Blooms for Potential Prevention of Disease Outbreak” *CDC’s Place And Health Conference*, November 2021 [[PPT](#)]

6. **Maniyar, C.B.**, Kumar, M. “Deep Learning based Improved Automatic Building Extraction from Open Source High Resolution UAV Imagery” *2nd International Conference on Unmanned Aerial Systems in Geomatics*, Indian Institute of Technology, Roorkee, April 2021 – **(Best Paper Award)** [[PPT](#) | [YouTube](#)]
5. **Maniyar, C.B.**, Kumar, A., Mishra, D.R., “Web-based Interactive Approach for Continuous Monitoring of Indian Inland and Estuarine Waters for Harmful Algal Blooms” *National Symposium on Remote Sensing for Environment Monitoring and Climate Change Assessment*, Indian Society of Remote Sensing (ISRS) and Indian Society of Geomatics (ISG), Virtual, December 2020 – **(Best Paper Award)** [[PPT](#)]
4. **Maniyar, C.B.**, Mishra, D.R. & O’Halloran T., “Ecological Impact of Hurricane Matthew on South Carolina Coastal Marshes and Forests using Time-Series Analysis” *National Symposium on Remote Sensing for Environment Monitoring and Climate Change Assessment*, Indian Society of Remote Sensing (ISRS) and Indian Society of Geomatics (ISG), Virtual, December 2020 [[PPT](#)]
3. **Maniyar, C.B.**, Banda, T., Krishna, D., Sharma, C. “Effective Cyanobacterial Harmful Algal Blooms Monitoring using Open Social Media Platforms and Google Earth Engine” *National Symposium on Remote Sensing for Environment Monitoring and Climate Change Assessment*, Indian Society of Remote Sensing (ISRS) and Indian Society of Geomatics (ISG), Virtual, December 2020 [[Poster](#)]
2. **Maniyar, C.B.**, Kumar A. “Generative Adversarial Network for Cloud Removal from Temporal Optical Satellite Imagery” *SoCProS 2020: 10th International Conference on Soft Computing for Problem Solving at Indian Institute of Technology (Indore)*, Virtual, December 2020 [[PPT](#) | [YouTube](#)]
1. **Maniyar, C.B.**, Kumar, A., Mishra, D.R., 2020. “Cloud Based Approach for Continuous Monitoring and Assessment of Indian Inland and Estuarine Water Environments using Sentinel-3 OLCI data”. *Indian Society of Remote Sensing: National Seminar*, Indian Institute of Remote Sensing, Dehradun, Uttarakhand, India, March 2020 **(Hexagon Geospatial Industry Appreciation Award)** [[PPT](#)]

OCCASIONAL (PEER) REVIEWER FOR

4. *Frontiers in Environmental Science*, Frontiers
3. *The Journal of Life and Environmental Sciences*, PeerJ
2. *Scientific Data*, Nature
1. *ISPRS Journal of Photogrammetry and Remote Sensing*, Elsevier

RELEVANT PROJECTS

6. **CyanoHABs**, “AI-based analysis and forecasting of Cyanobacterial Harmful Algal Blooms” (Present) [<https://chintanmaniyar.users.earthengine.app/view/cyanokhoj-india>]
5. **Plastic Pollution**, “Using Multi-modal Remote Sensing and Artificial Intelligence to Map Plastic Pollution in Urban and Coastal Settings” (Present)
4. **Sea Surface Salinity**, “Machine Learning Methods to Estimate Sea Surface Salinity using Remote Sensing Reflectance Data” (Present)
3. **Water Quality**, “Multi-Sensor based Total Suspended Sediments (TSS) & Nitrate (NO_x) modelling for the Belize Coastal Region using Ensemble Machine Learning Techniques” (Present)
2. **Image Processing**, “Spectral-Modulation based Novel Supervised Classification for Sentinel-2 Reflectance Imagery” (Spring 2021)
1. **Ecological Shift**, “Assessing the Ecological Impact of Hurricane Matthew on the South Carolina Pine Forests using Remote Sensing Vegetation Indices” (Fall 2020)

AWARDS AND ACHIEVEMENTS

1. **1 of 24 global recipients** of IOCCG’s “Ocean Optics and Ocean Color Science” Summer Lecture Series Fellowship, 2022, held in Villerfranche-sur-Mer, France
2. Merit-based Academic Scholarship Awards:
 - a. ₹ 48,000 (\$ 600): Golden Jubilee Fellowship, Masters’ Semester 4 (Department Rank 1); May 2021

- b. ₹ 30,000 (\$ 370): Golden Jubilee Fellowship, Masters' Semester 3 (Department Rank 1); Dec 2020
- c. ₹ 56,000 (\$ 700): Golden Jubilee Fellowship, Masters' Semester 2 (Department Rank 1); May 2020
- d. ₹ 32,000 (\$ 400): Golden Jubilee Fellowship, Masters' Semester 1 (Department Rank 1); Dec 2019
- e. ₹ 40,000 (\$ 500): Bachelors' Second Year (Institute Rank 1); July 2017
- f. ₹ 40,000 (\$ 500): Bachelors' First Year (Institute Rank 1); July 2016

COMMUNITY SERVICE

Founding Member and Mentor

Nov 2011 – Present

Astronomy Club, Baroda High School (O.N.G.C), Gujarat, India

- Affiliated with Astronomers Without Borders
- Conducting celestial observations, handling telescope, delivering lectures on Astronomy & Cosmology

Open-Source Project Mentor

Oct 2018 – Aug 2021

Developer Student's Club, Dhirubhai Ambani Institute of Information Technology, Gujarat, India

- Mentored 20 undergraduate and graduate students pan India on my open-source projects.
- Domains: Machine/Deep Learning, Satellite Image Processing, NLP, Web Development, Google Cloud