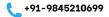
DYUTIDEEPTA BANERJEE

Deep Tech Professional



dyutideepta.banerjee@gmail.com

Bangalore, India, 560077



https://github.com/DyutideeptaB

https://www.linkedin.com/in/dyutideepta-banerjee/

SUMMARY

Deep Tech professional with a strong foundation in Physics, specialising in image and data interpretation, science-based modelling and advanced analytics. Passionate about creating innovative solutions across sectors, including spacetech, defence, healthcare, robotics, automotive, new energy, and material sciences. I combine deep scientific insight and Physics fundamentals with cutting-edge AI and vision technologies to solve complex, real-world challenges. As a clear communicator, I bring experience in engaging stakeholders across industry & academia - presenting internationally, driving cross-domain discussions, automating workflows, and delivering impactful solutions to local and global clients.

EXPERIENCE

Artificial Intelligence Research Intern

Project link

MathWorks: Customer Success Engineering Group @

11/2022 - 05/2023

• Munich, Germany

Company specialising in software for technical computing and model-based design

- Established a work pipeline for standardised satellite imagery with Multispectral & Digital Terrain Model for morphological analysis using JAXA's SELENE image datacubes of the KAGUYA mission.
- Designed and developed a MATLAB AI application for efficient multispectral image preprocessing like segmentation, annotation, and enhancement to create gold-standard training data for Lunar sinuous rille features.
- Adapted CNN models using deep and transfer learning, achieving above 95% prediction accuracy.
- Partnered with international research teams at the Max Planck Institute for Solar System Research and the University of Padova.
- The work pipeline enables cross-domain applications in the geospatial, medical, and manufacturing sectors.
- Ongoing engagement with research teams for publication.

Visiting Fellow

International Center for Theoretical Sciences Tata Institute of Fundamental Research &

m 07/2019 - 04/2020 Bangalore, India

A research institution focused on advancing fundamental and interdisciplinary science

- Developed simulation models for turbulent flows applicable in various fields
- Established an experimental mechanism for validating Newtonian drag models
- Designed goodes and 3D printed lab apparatus for experiments

Cross-Platform Solutions Specialist - Freelance Contractor Johnson & Johnson 🔗

m 06/2024 - Present

Pangalore, India

multinational corporation that develops medical devices, pharmaceuticals, and consumer packaged goods

- Engaged with global stakeholders, defined solutions for business needs and conducted cross-platform testing
- Delivered actionable improvements for product lookup system
- Reduced fix turnaround by 40% through enhanced processes

Automation Specialist - Freelance

Toriox PRJ Packaging Pvt Ltd 🔗

12/2024 12/2024 Pangalore, India

A startup that specialises in inventory management

- Designed and implemented edge-based Python modules for realtime batch QR code processing
- Achieved 80% reduction in manual intervention for low-latency production environments

EDUCATION

MSc Physics of Data

University of Padua &

= 10/2020 - 04/2024

Padua, Italy

BSc (Hons) Physics, minor in Data Science Azim Premji University &

6 08/2016 - 08/2019

Bangalore, India

KEY ACHIEVEMENTS

Winner of ERODEM Research Grant 2024



Winner of Erasmus + Traineeship Grant 2022



Poster Publication at 11th European Lunar Symposium 2023 **View Poster**

AI-based detection of Lunar Sinuous rilles: A comparison with manual detection methods



First-authored Manuscript under review by Elsevier

Focused on modular vision pipelines for multidataset analysis in Lunar data. Co-authored by Max Planck Institute, University of Padua & MathWorks.

CERTIFICATIONS

Finance for Non-finance Professionals 2025 **Rice University by Coursera View Certificate**



2023 **View Certificate**

Introduction to Cosmology

M. P. Birla Institute of Fundamental Research

SKILLS

Physics & Computational Modelling

Strong foundation in Physical sciences with expertise in simulations, algorithm development and imaging

AI & Data Science

Proficient in Deep Learning Frameworks, Predictive Analytics, Data Wrangling, Data processing, Computer Vision and Model Deployment

Programming & Tools

Skilled in Python, MATLAB, R, TeX, CAD, SQL, MS Office, Git, Bash, Jira, learning C++

Soft Skills

Excellent public speaking and team leadership skills, financial and business acumen

INVITED SPEAKER

Seminar Speaker for the Applicability of AI in Planetary Feature

Max Planck Institute for Solar System Research €

m 05/2023

• Göttingen, Germany

Scientific Ehibitor for Buffon's Mathematical Model

Indian Institute of Science

02/2020

O Bangalore, India

SELECT TECHNICAL CONTRIBUTIONS

Encrypted QR generator with Decryption Algorithm Project Link

An open source project: A Python-based toolkit for encrypted QR code generation, enhancing data security using Tkinter for GUI and Fernet-based decryption system.

Built an AI-Powered Ed-tech Platform for NASA Space Apps Hackathon 2024 <u>View Platform</u>

Created automated data pipelines for acquiring NASA exoplanetary datasets
Deployed NLP/LLM modules for improved data processing

VOLUNTEERING & LEADERSHIP

Academic Coach for graduate-level Physics & Mathematics

Classgap by GoStudent 🔗

■ 01/2024 - 12/2024 • Global

Communication Coach

Center for Linguistics, University of Padua 🔗

Certified Peer Counsellor for Mental Wellness

Azim Premji University 🔗

■ 07/2017 - 04/2019 • Bangalore, India

Special-ed Teacher Volunteer for the underprivileged at an NGO

Parikrma Humanity Foundation ∅

■ 07/2017 - 12/2017 • Bangalore, India

LANGUAGES

