

DYUTIDEEPTA BANERJEE

AI / Machine Learning | Python | Computer Vision Specialist

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LinkedIn

GitHub

Bangalore, India

SUMMARY

AI professional with 3+ years of experience applying Machine & Deep Learning techniques to real-world datasets. Skilled in Python, data preprocessing, and building end-to-end ML and Computer Vision workflows, including model training, evaluation, extraction, and optimisation. Strong foundation in analytical problem-solving, with experience collaborating across teams to translate data-driven insights into practical solutions.

PROFESSIONAL EXPERIENCE

Data Scientist

[Spatialty.AI](#)

09/2025 - 01/2026 Bangalore, India

- Developed *computer vision models* for image-based detection tasks (~93% accuracy)
- Worked on *end-to-end ML workflows* using Python, from *data synthesis and preparation to model evaluation and tuning* for defence & construction sector clients.

Cross-Platform Solutions Expert

[Johnson & Johnson](#)

06/2024 - 08/2025 Bangalore, India

- Led *cross-functional technical discussions* with international stakeholders, translating system constraints and analytical outputs into actionable *product decisions*.
- Conducted *cross-platform QA and debugging* across SQL + React systems, *reducing recurring bugs by ~70%*.
- Collaborated with engineering and product teams to *improve system performance ~40%*.

Artificial Intelligence Research Intern

[Project Link](#)

[MathWorks: Customer Success Engineering Group](#)

11/2022 - 05/2023 Munich, Germany

- Built *end-to-end Computer Vision pipelines* for datasets, including preprocessing, feature extraction, *model training and deployment*.
- Achieved feature detections *>95% accuracy with Deep learning models (CNNs)*.
- Performed *model evaluation with improved dataset quality* through annotation and validation using *custom built preprocessing tool*.

Software Automation Specialist

[Toriox PRJ Packaging Pvt Ltd](#)

09/2024 - 12/2024 Bangalore, India

- Designed and deployed *edge-based Python modules* for real-time *inventory management, improving efficiency by 80%* in low-latency production environments. This was a freelance work.

Visiting Fellow

[International Center for Theoretical Sciences Tata Institute of Fundamental Research](#)

07/2019 - 04/2020 Bangalore, India

- Developed and validated *Physics-based simulation models* for complex turbulent flows, using quantitative motion analysis techniques in *Python & MATLAB*.

SELECT PROJECTS

Robotics Simulation: ML-based Dual Arm Coordination [Project Link](#)

Encrypted QR System: Python-based secure encoder [Project Link](#)

Hexbug Bot Dynamic Systems - A study for Directed Motion

EDUCATION

MSc Physics of Data

[University of Padua](#)

10/2020 - 04/2024 Padua, Italy
2022/23 - Erasmus Traineeship: foreign exchange

BSc (Hons) Physics, minor in Data Science

[Azim Premji University](#)

08/2016 - 08/2019 Bangalore, India

SKILLS

Computation & Modelling

- Foundational Physicist for AI & simulations
- Algorithm development
- Physics-based modelling
- Digital Twinning
- Simulation-driven data generation
- Scientific computing



AI & Data Science

- Machine & Deep Learning Frameworks
- Data Wrangling-Processing-Interpretation
- Statistical Analysis
- Technical Documentation, Version Control and Quality Assurance



Computer Vision

- Image preprocessing, Spectral imaging, Feature extraction, point cloud processing



Programming & Tools

- Python (*NumPy, Pandas, Matplotlib, TensorFlow, Keras, PyTorch, JAX, Rasterio*), MATLAB
- SQL (basic)
- Git, Bash, Jira



Soft Skills

- Excellent communication & Networking
- Efficient Problem-solving
- Financial Acumen

KEY ACHIEVEMENTS

★ First-authored Manuscript under review

Modular vision pipelines for multi-dataset analysis.



Poster Publication at 11th European Lunar Symposium 2023 [View Poster](#)

AI-based detection of Lunar Sinuous rilles

CERTIFICATIONS



Finance for Non-finance Professionals 2025
[Rice University by Coursera](#) [Certificate](#)



Deep Learning Onramp 2023
[MathWorks](#) [Certificate](#)