
MAHENDRA NATH REDDY ELICHERLA

Didcot, UK ♦ [Gmail](#) ♦ [Linked In](#) ♦ [Github](#) ♦ [Portfolio](#)

Applied AI & Systems Engineer with an MSc in AI & Robotics (Distinction). Expertise in deep learning for medical image analysis, agentic AI systems, and autonomous robotics. I develop innovative AI solutions that address real-world challenges.

EXPERIENCE

Applied AI & Systems Engineer | Jul 2026 – Present | Amartya Group Limited · Didcot, UK · Hybrid

- AI/ML development, data engineering, data ingestion, schema mapping, rapid prototyping, feature implementation, and deterministic AI systems.

Agentic AI Engineer (Internship) | Oct 2025 – Jun 2026 | AIUndecided · Hayes, UK · Hybrid

- Built self-hosted agentic AI systems (Docker/Ollama); developed multi-agent workflows and RAG pipelines into enterprise-ready prototypes.
- NVIDIA Hack for Impact London: built "Ask London", a hallucination-free civic AI oracle deployed on NVIDIA DGX Spark (RAG + Text-to-SQL).

External Research Collaborator | Jan 2024 – Jun 2024 | SPRITZ Security & Privacy Research Group · University of Padova · Remote, Italy

- Contributed to the development of a novel game-based CAPTCHA solution to improve user interaction and integrate real-time bidding (RTB) for monetisation.

TECHNICAL SKILLS

- ML / DL:** PyTorch, TensorFlow, Scikit-learn, OpenCV, GANs, CNNs, NumPy, Pandas |
- Engineering:** Docker, RAG, Multi-agent Systems, Ollama, n8n, Git, Python, C++ |
- Medical AI:** Histopathology, HoVer-Net, MONAI, Medical Image Analysis, Domain Generalisation |
- Robotics:** ROS2, SLAM, LiDAR |

EDUCATION

MSc, Artificial Intelligence & Robotics with Advanced Research | University of Hertfordshire, UK | Sep 2023 - Sep 2025 | Distinction

- Thesis: "Evaluating GANs for EEG Signal Synthesis", WGAN-GP: >0.9 Pearson correlation, 33% improvement over baseline*

B.Tech, Computer Science & Engineering | REVA University, India | Aug 2018 - Jun 2022 | First Class with Distinction

- Served as Student Chair for IEEE Student Branch, organised technical events and workshops; oversaw 7 sub-chapters.

SELECTED PROJECTS

Domain Generalisation in Computational Histopathology (Current)

- Designing a reproducible experiment by implementing HoVer-Net/U-Net trained on CoNSeP, and test model's generalisation on the unseen MoNuSeg dataset. Quantifying domain gap via Panoptic Quality (PQ) and F1-score to provide a clear benchmark for robust clinical AI.

Tech: *PyTorch, Docker, MONAI, OpenCV, Scikit-learn*

Unsupervised Clustering for Nuclei Segmentation (2nd Prize · UH DSPC 2025)

- Implemented K-Means, GMM, FCM at superpixel/pixel/stain levels; Hematoxylin-channel clustering yielded best annotation-free nuclei segmentation on MoNuSeg.

Tech: *Scikit-learn, OpenCV, K-Means, GMM, FCM*

Evaluating GANs for EEG Signal Synthesis (MSc Thesis)

- WGAN-GP achieved the highest combined performance score (0.6623): >0.9 Pearson correlation, 33% improvement over Vanilla GAN baseline across Pearson Correlation, KL Divergence, Spectral Similarity, PSNR, and FID.

Tech: *PyTorch, WGAN-GP, SciPy, NumPy*

PUBLICATIONS

- [1] Reddy, M. N., & Rananavare, L. B. (2023). "**Deep Learning Approaches for Plant Disease Management: A State-of-the-Art Analysis**." CSITSS 2023, Bangalore, India, pp. 1–5. IEEE. <https://doi.org/10.1109/CSITSS60515.2023.10334120>
- [2] Reddy, M. N., Badami, V. V., Dinesh, B., Chetan Kumar, S. P., & Kanzaria, K. V. (2022). "**Spoken English to Indian Sign Language Translator**." IACIT-2022, River Publishers. <https://doi.org/10.13052/rp-9788770229005>

ACTIVITIES

- Selected participant**, SDS Summer School 2026 (IHU Strasbourg) | June 2026
- Poster presenter**, SPECS Conference 2026 (UH) | June 2026
- Team Member (UH Racing Autonomous)**, FS - AI Competition | Silverstone, UK | July 2025
- Selected Participant & Grant Recipient**, 10th French-German Summer School (BMW Group / EURECOM / TUM) | Chiemsee, Germany | July 2024