

AKHILA ATMAKURU
AI and Machine Learning Engineer

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Experienced **AI and Machine Learning Engineer** with a **PhD in Artificial Intelligence** (awaiting formal award). Expert in **designing, developing, and deploying advanced deep learning models** and architectures for **large-scale, data-driven applications**. Proven ability to deliver robust, **cloud-based AI** solutions using **AWS, Python, and MLOps practices**. Strong track record of driving **innovation, efficiency and real-world impact** through **research-backed, production-ready AI** systems across diverse industries.

EDUCATION

Doctor of Philosophy (Ph.D.) in Artificial Intelligence

Oct 2021 - Oct 2025

University of Reading

Reading, UK

- **Designed two novel feature selection techniques** that significantly improved model generalisability and outperformed existing benchmarks, enabling more reliable deployment of AI in critical applications.
- **Developed a novel ensemble sensitivity analysis framework** that advanced explainability in deep neural networks, fostering transparent AI systems aligned with domain-specific requirements in high-stakes decision-making contexts.
- **Designed a novel multi-stage algorithm integrating transfer learning with autoencoders**, achieving state-of-the-art classification accuracy and improved data efficiency, particularly valuable for domains with limited and sensitive datasets.

Masters in Applied Artificial Intelligence

Oct 2019 - Sept 2020

Cranfield University

Cranfield, UK

Thesis Project (THINK WIRELESS TECHNOLOGIES):

- **Designed and developed an AI-driven UAV surveillance project** to identify shark species and classify behaviour (aggressive vs non-aggressive) using deep learning techniques.
- **Developed and trained deep learning models on a large-scale video dataset**, incorporating preprocessing and data augmentation for enhanced performance.
- Achieved high classification accuracy, **demonstrating the potential of real-time AI solutions** in marine wildlife monitoring and safety applications.

EXPERIENCE

UNIVERSITY OF READING, Department of Computer Science:

Oct 2020 - Sept 2021

Teaching Fellow & Researcher:

Reading, UK

- **Courses Taught:** Machine Learning, Deep Learning, Data Visualisation, Operating Systems, and Python.
- Published novel methods for deep learning models.
- **Other Research Activities:** Data preprocessing, data visualisation, FreeSurfer for Pre-processing image datasets

TATA CONSULTANCY SERVICES:

Mar 2016 - Oct 2019

Machine Learning Engineer:

Chennai, India

Central R&D Team,

Jul 2018 - Dec 2019

- **Designed and deployed advanced DL models** (CNNs, transformer-based LLMs) and built scalable ML pipelines, improving automation, classification accuracy, and reducing time-to-delivery by 40%.

- Leveraged **AWS cloud services** (SageMaker, EC2, Lambda, S3) for scalable training and deployment, ensuring cost efficiency and high availability of production ML solutions.
- **Led an agile ML/AI team**, mentoring engineers, managing sprints, and aligning stakeholders through proof-of-concepts and demos to deliver business-focused AI initiatives.

Data Scientist:

Chennai, India

Central R&D Team,

Mar 2016 - Jul 2017

- **Developed end-to-end predictive models on large-scale tabular datasets**, applying advanced data cleaning, feature engineering, and analysis to improve forecasting accuracy and business decision-making.
- **Built interactive dashboards and reports** (Tableau / Power BI) adopted by senior leadership, while partnering with stakeholders to translate business needs into ML solutions and drive adoption through impactful demos.

PUBLICATIONS

A. Atmakuru et al., "[Enhancing the Performance and Transparency of Machine Learning \(ML\): Alternative Approaches to ML Interpretability-Explainability](#)" TechRxiv. October 07, 2025

A. Atmakuru et al., "[Transfer Learning for the Cognitive Staging Prediction in Alzheimer's Disease](#)" ACAIN 2024, LNCS, Springer, 2025

A. Atmakuru et al., "[Sensitivity Analysis for Feature Importance in Predicting Alzheimer's Disease](#)" ACAIN 2023, LNCS, Springer, 2024

A. Atmakuru et al., "[Improved Filter-Based Feature Selection Using Correlation and Clustering Techniques](#)" LOD 2023, LNCS, Springer, 2024.

Co-author, "[Classification-Biased Apparent Brain Age for the Prediction of Alzheimer's Disease](#)" Frontiers in Neuroscience, 2021.

AWARDS

- **Awarded a fully funded PhD Studentship by the University of Reading** in recognition of academic excellence and research potential.
- **"Outstanding Performance Award"** in Post-Graduation for achieving excellence at Cranfield University.
- **"Star of the Team"** Award for developing a scalable computer vision project, "Intelligent Rail Monitor."

TECHNICAL SKILLS

Certification:

- ✓ Professional Scrum Master-1 Certification from Scrum Organisation (Scrum.org).
- ✓ Amazon Web Services Solution Architect.

Programming: Python, C, C++, R - proficient in ML/DL algorithm design and performance optimisation.

ML/DL: TensorFlow, Keras, PyTorch, Scikit-Learn - hands-on experience designing, training, and deploying models.

AI Applications: Computer Vision, Natural Language Processing, Time series, Predictive modelling and Anomaly detection.

Data Analysis & Manipulation: Pandas, NumPy, Matplotlib, Seaborn – advanced feature engineering, preprocessing, and exploratory data analysis for large-scale datasets.

Cloud / MLOps: AWS - SageMaker, EC2, Lambda, S3 - scalable model deployment, training pipelines, and production-ready solutions.