AKHILA ATMAKURU

Researcher | Scrum Master

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EDUCATION

Doctor of Philosophy (Ph.D.) in Artificial Intelligence (AI) **Oct 2021 - June 2025**

University of Reading Reading, UK

- Designed and implemented advanced deep learning architectures to enhance model accuracy and explainability in the healthcare domain, focusing on Alzheimer's disease prediction from MRI data.
- Developed two novel feature selection techniques that improved model generalisability and surpassed existing performance benchmarks.
- Proposed an ensemble sensitivity analysis technique (SHAP + Sobol) to enhance model clarity, fostering more transparent AI systems that align with specific domain insights.
- Developed a multi-stage deep learning pipeline combining transfer learning and autoencoders, attaining superior classification accuracy while enhancing data efficiency across limited medical datasets.
- Developed cutting-edge AI methods that deliver scalable, domain-agnostic solutions for real-world deployment across industries.

Masters in Applied Artificial Intelligence **Oct 2019 - Sept 2020**

Cranfield University **Cranfield, UK**

Thesis Project (THHINK WIRELESS TECHNOLOGIES):

- Led 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

Department of Computer Science, UNIVERSITY OF READING: **Oct 2020 - Sept 2021**

Researcher & Teaching Fellow:

- Published novel methods for the early prediction of Alzheimer's using deep learning models.
- Other Research Activities: Data Visualisation, FreeSurfer for Pre-processing medical image datasets
- Courses Taught: Machine Learning, Deep Learning, Data Visualisation, Operating Systems, and Python.

TATA CONSULTANCY SERVICES: **Mar 2016 - Sep 2019**

Scrum Master & Senior Data Scientist:

Central R&D Team, Chennai, India **Nov 2018 - Sept 2019**

- Developed and deployed models for computer vision, time series analysis, NLP, and recommendation systems on the AWS cloud platform, leveraging services like SageMaker, EC2, Lambda, and S3 for scalable and efficient implementation.
- Led sprint planning, sprint reviews, sprint retrospectives, and daily scrums, resulting in the successful delivery of major projects in the group.
- Worked closely with the product owner to manage customer expectations and backlog.

Data Scientist:

Central R&D Team, Chennai, India **Mar 2016 - Oct 2018**

- Developed and deployed predictive language models for chatbots tailored to human resources applications.
- Delivered data visualisation reports using PowerBI/Tableau to clients for effective trend analysis.

PUBLICATIONS

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

- Recipient of the University of Reading Studentship for the 3-year PhD program duration.
- "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.

Technical Skills:

- Python, C, C++ and R
- Keras, TensorFlow & PyTorch
- Scikit Learn, Pandas, NumPy, and Matplotlib
- Data visualisation: Tableau and PowerBI
- Computer Vision, Timeseries Analysis, and NLP
- Confluence, Jira and Trello