

DHANESH RAJU

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Colchester, United Kingdom.

AI engineer with experience in developing machine learning and deep learning algorithms. Master's degree in Artificial Intelligence from the university of Essex. Skilled in creating AI solutions for complex environments. Focused on AI models using Brain Computer Interface, Quantum Machine Learning, Deep Learning and Robotics. My aspiration is to develop a innovative Super AI Algorithm by integrating the fields of Artificial Intelligence, Brain Computer Interface, Quantum Computing, HPC, with defensive programming.

EDUCATION:

University of Essex | Colchester | United Kingdom.

Oct 2023–Sep 2024.

Master of Science in Artificial Intelligence.

Specialised Knowledge: Neural Networks and Deep Learning, Intelligence System and Robotics, Machine Learning, Data Science and Decision Making, Natural Language Engineering and Text Analytics

KPR Institute of Engineering and Technology | Coimbatore | India.

Aug 2018-May 2022.

Bachelor of Engineering in Electronics and Communication Engineering.

Specialised Knowledge: Internet of Things, Signal Processing, Robotics and Automation and Cloud Computing

SKILLS:

Programming language: Python, SQL, C, C++

Frameworks: TensorFlow, Keras, Scikit-Learn, OpenCV and NLTK

Tools: Git and GitHub, MLFlow, Flask and Fast API, Data Version Control and Jira.

Knowledge Area: Neural Networks, Intelligence System and Robotics, Fuzzy Logic, Deep Learning, Machine Learning, Data Science and Decision Making, Quantum Machine Learning, Brain Computer Interface, Natural Language Processing.

Ability: Teamwork, Good Communication, Presentation, Leadership, Problem Solving, Code deployment, Code testing, Pattern finding, EDA and Logic building.

WORK EXPERIENCE – INTERNSHIP:

Data Science and Machine Learning| Gilbert Research Centre | Coimbatore | India. Dec 2022-Jan 2023.

- Completed foundational work in data pre-processing, data analysis and basic model building.
- Applied basic machine learning algorithms like KNN, Random Forest and XG-Boost to simple project.
- Gained practical experience working with real-world data at Gilbert Research Centre.
- Worked collaboratively in a team setting, enhancing communication, and problem-solving skills in the professional research environment.

DISSERTATION:

Anomaly Detection in Pump Operations using Machine Learning.

Jan 2024-Present.

- Developed deep learning model using Python and TensorFlow, integrated with Microcontroller and Communication board for data collection, and deployment on Stuart Turner's servers.
- Implemented advanced feature extraction and fuzzy logic for precise fault detection, enhancing predictive maintenance and preventing pump failures.
- Create real-time alert system with Flask and Flask API, notifying maintenance team of anomalies with site location and solution. Deployed software solution on Linux servers for seamless integration with Stuart Turner's operations.

ACADEMIC PROJECTS:

Predictive Intelligence for Renewable Surplus Management.

Jan 2024-Apr 2024.

- Created a Python based system using TensorFlow and scikit learn to forecast renewable energy surpluses, enhancing energy distribution efficiency.
- Conducted thorough data cleaning and feature extraction to identify energy surplus threshold, ensuring accurate and reliable prediction.
- Developed robust machine learning model with cross validation, hyperparameter run, presenting clear insights and recommendation to stakeholders for successful deployment.

Automatic Sleep Stage Classification using Machine Learning.

Jan 2024-Mar 2024.

- Led team in developing automated sleep stage classification system, combining data pre-processing and machine learning with GPU-accelerated high-performance computing on Cent-OS.
- Managed large PSG signal dataset, implementing advance pre-processing and optimizing five models for superior performance.
- Ensured seamless integration of optimized models into the classification system, with Random Forest emerging as the top performer.

Custom MLP Neural Network for Precision Rocket Landing.

Oct 2023-Dec 2023.

- Build a multi-layer perceptron from scratch using NumPy and Pandas, implementing feedforward and backpropagation.
- Train the neural network with Rocket Lander game data, optimizing for precise rocket landing.
- Integrated the trained neural network into Rocket Lander, demonstrated practical AL application in real-time systems.

Advanced Control Architecture for TurtleBot3 with ROS.

Oct 2023-Dec 2023.

- Designed and implemented a bespoke control system from scratch, incorporating PID, fuzzy logic, and obstacle avoidance algorithms without external libraries.
- Applied the custom architecture to TurtleBot 3 using ROS, demonstrating proficiency in robotics and real-time systems.
- Validation of the control system in gazebo simulation and real-world environments, highlighting adaptability and practical application.

PROFESSIONAL DEVELOPMENT:

UNIVERSITY OF SOUTHERN DENMARK | Odense | Denmark.

Aug 2024-Aug 2024.

Summer School Program: Artificial Intelligence in Healthcare.

Specialised Knowledge: Medical Imaging Processing, Clinical Outcome Prediction, Patient Data Analysis, Development of Medical Device.

Nunnari Labs | Coimbatore | India.

Jul 2023-Present.

Trainee Program: Machine Learning.

Specialized Knowledge: TensorFlow, ML-Ops, Neural Networks, Machine Learning.

Reference by Request:

Professor Hani Hagras

Professor, School of Computer Science and Electronic Engineering (CSEE),

Director of Computational Intelligence Centre, Director of Impact,

Head of Artificial Intelligence Research Group,

University of Essex.

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