KARTHIKA SETHUNATH

Data Scientist | Machine Learning & AI | Healthcare Analytics | Python & SQL Expertise

+61488085815 • keerthisnath123@gmail.com • https://www.linkedin.com/in/karthikasethu • Melbourne

Profile

Results-driven Data Scientist with a strong foundation in Mathematics, Applied Statistics, and Data Science. Experienced in the end-to-end Data science lifecycle, including data extraction, analysis, and model deployment. Proficient in Python, SQL, and cloud platforms, with expertise in machine learning, data engineering, and software development. Skilled in leveraging statistical techniques and automation to optimize processes and drive impactful, data-driven solutions. Passionate about using data to solve societal challenges through collaboration and innovation.

Education

RMIT University
Masters of Data Science

Melbourne, Australia
01/2023 - 11/2024

Amrita Vishwa Vidyapeetham
Masters in Applied analytics and Data Science

India
04/2020 - 07/2022

Aalto University
Exchange program

Helsinki, Finland
01/2022 - 07/2022

Amrita Vishwa Vidyapeetham
Bachelors in Mathematics

India
04/2017 - 03/2020

Internship Experience

InflaMed
Data Science Intern

Melbourne
07/2024 - 12/2024

AI Dermatology Assistant Project

- Developed an AI-powered dermatology assistant to enhance patient interaction and enable early diagnosis using **machine learning, NLP, and data analytics**.
- Built a seamless Flask-based interface for intuitive image uploads, integrating a fine-tuned Llama model with **LangChain** for condition-specific responses.
- Engineered chatbot logic for both text and image-based queries, ensuring medically accurate and empathetic responses.
- Delivered structured chatbot response logic for both text-based queries and image-based analysis, ensuring responses were medically accurate, empathetic, and accessible to diverse users.
- Improved predictive accuracy by leveraging **Hugging Face** models for text and image analysis, refining responses with symptom-specific prompts.
- Integrated real-time image analysis with patient history management, delivering personalized and precise recommendations.
- **Skills** - Data Integration and Management, Predictive Modelling, Advanced AI Techniques, Healthcare Data Analytics, Natural Language Processing, Client interaction, Team work, Data Visualisation, NLP.

Project Works

Skin cancer detection using Grad-CAM

RMIT University
07/2023 - 11/2024

Academic project

- Used a dataset with 10,015 photos of skin lesions with pigmentation to perform analysis on.
- Selected the Grad CAM model with the ResNet50 architecture based on earlier research on the Class Activation Map (CAM).
- Trained the ResNet50 on the skin cancer dataset, without using the MNIST dataset for pre-training.
- Checked accuracy and loss metrics.
- **Skills** - Object Detection, Python, user interface design, Explainable Machine Learning, evaluation metric, Class Activation Maps.

Grad-CAM Comprehensive survey

Aalto University
02/2022 - 01/2023

Volunteering project

- Compared Class Activation Mapping (CAM) techniques (Grad-CAM, Layer-CAM, XGrad-CAM) with Computer Vision models using highlight mapping and accuracy metrics.
- Evaluated explanation maps using confidence scores and Intersection over Union (IoU) for performance assessment.
- Analyzed ResNet50, VGG16, and ViT models on PASCAL VOC 2007 and ImageNet datasets to study architectural impact on image classification.
- **Skills** - Explainable Machine Learning, Computer Vision, Deep Learning, Python, Class Activation Mapping.

Project Works

Difficulty analysis of Quiz item using mouse dynamics

Amrita Vishwa Vidyapeetham
01/2021 - 12/2021

Volunteering project
- Increased website user satisfaction by 25% by streamlining online testing procedures for multiple-choice questions.
- Developed a web-based system to track mouse movements for analyzing student behavior and answer validation.
- Used data analysis to differentiate between informed responses and guesses, assessing quiz question difficulty based on response times.
- Provided insights for personalized student support, enhancing adaptive learning strategies.
- **Skills** - Python, PHP, JavaScript, Front-End Development, Back-End Web Development, Ajax.

Part-time Experience

Nando's

Maribyrnong
03/2023 - Present

Shift Leader
- Improved team efficiency by optimizing task assignments for a 10-member team.
- Improved customer service skills by handling customer interactions with patience and professionalism, even during busy period.
- Managed team operations, resolving issues promptly and maintaining smooth workflows during peak times.
- Boosted team morale and productivity by fostering a positive work environment.
- **Skills -** Team Leadership, Customer Service, Multitasking, Task Prioritization, Conflict Resolution.

Skill Summary

Programming & Cloud Technology:

Python · R · PHP · SQL · JavaScript · C · Java · C++ · AWS · Google Cloud Platform · Databricks · Hadoop · Colab

Analysis & Visualisation tools: Power BI · Tableau · Excel · Google Analytics · BigQuery · Dashboard Management

Machine Learning & AI: NLTK · PyTorch · TensorFlow · Hugging Face · Llama · Jupyter Notebook · Healthcare Analytics

Database Management & Statistical Analysis:

Data Management · Database Management · Statistical Analysis · Research Design and Methodology · Data-Driven Decision Making

Soft Skills & Leadership:

Teamwork · Problem Solving · Critical Thinking · Communication · Time Management · Interpersonal Skills · Collaboration · Multitasking · Leadership Skills · Risk Management