

SHILPA AJITH

Data Scientist — AI/ML Professional

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Professional Summary

Data Scientist and AI/ML professional with experience building NLP and machine learning solutions using Python, SQL, scikit-learn, PyTorch, TensorFlow, and Hugging Face Transformers. Skilled in data preprocessing, EDA, feature engineering, model training, evaluation, and deployment-oriented ML workflows. Hands-on experience fine-tuning BERT, BART, RoBERTa, and Llama-2 for text classification, with experience in Flask, REST APIs, MongoDB Atlas, Azure Blob Storage, and Celery.

Technical Skills

Languages: Python, SQL, HTML/CSS

Machine Learning: Classification, Regression, Clustering, Feature Engineering, Model Evaluation, Hyperparameter Tuning, Statistical Analysis

AI/NLP: NLP, LLMs, Transformers, BERT, BART, RoBERTa, Llama-2, Sentence Embeddings, Attention Mechanisms, Prompt Engineering

Libraries/Frameworks: scikit-learn, NumPy, Pandas, Matplotlib, Seaborn, TensorFlow, Keras, PyTorch, Hugging Face Transformers, Flask, Streamlit

Databases/Cloud/Tools: MongoDB Atlas, MySQL, Azure Machine Learning, Azure Blob Storage, AWS Cloud, Google Colab, Git, GitHub, VS Code, LaTeX, MATLAB, REST APIs, Celery

Professional Experience

Data Science Intern

Sep 2023 – Mar 2024

Precily Inc.

Delhi, India

- Developed end-to-end NLP pipelines for sequence classification using Python, Hugging Face Transformers, and pretrained language models.
- Fine-tuned BERT, BART, and RoBERTa models for multiclass and multilabel text classification tasks and evaluated performance using accuracy, precision, recall, and F1-score.
- Implemented Parameter-Efficient Fine-Tuning on the Llama-2 chat model using QLoRA and prompt-based training approaches.
- Built Flask-based APIs for data loading, model upload, training updates, and workflow orchestration.
- Used MongoDB Atlas, Azure Blob Storage, and Celery to support asynchronous processing, scalable storage, and long-running ML workflows.

AI-Oriented Data Science Trainee

Aug 2022 – Aug 2023

Expertzlab

Ernakulam, India

- Completed hands-on training in statistical analysis, machine learning, NLP, deep learning, and cloud-based development.
- Built practical ML projects using Python, SQL, scikit-learn, NumPy, Pandas, Matplotlib, Seaborn, TensorFlow, Keras, and PyTorch.
- Performed data preprocessing, EDA, feature engineering, model training, and model evaluation on structured datasets.

Assistant Professor

Feb 2020 – Jul 2022

Malabar Institute of Technology

Kannur, India

- Taught engineering subjects and mentored students in technical projects, documentation, presentation, and problem-solving.
- Served as an active member of the KTU Exam Cell and was promoted to Exam Cell Chief.

Assistant Professor

Aug 2019 – Jan 2020

North Malabar Institute of Technology

Kasaragod, India

- Delivered lectures and workshops in Digital Signal Processing and Digital Electronics.

Projects

Semantic Similarity App | *NLP, MPNET, Streamlit* | GitHub

Aug 2023

- Developed and deployed a Streamlit app to calculate semantic similarity between paragraph pairs using sentence embeddings.
- Used a pretrained MPNET transformer model and cosine similarity to compare paragraph-level semantic meaning.

Cardiovascular Disease Prediction | *Classification, Python, scikit-learn* | GitHub

Jul 2023

- Built and compared seven classification models to predict cardiovascular disease risk using structured health data.
- Applied preprocessing, feature analysis, model training, regularization, and evaluation to improve predictive performance.

No-Reference Image Quality Assessment | *Computer Vision, CNN, VGG16*

Jul 2019

- Developed a CNN-based approach to assess distorted image quality without using a reference image.
- Used VGG16-based feature extraction to improve distortion classification and image quality assessment for compression and transmission use cases.

Education

University of Waterloo, WatSPEED

Jan 2026 – Present

Artificial Intelligence Certificate

Waterloo, Ontario

College of Engineering Thalassery, KTU

Aug 2017 – May 2019

Master of Technology in Signal Processing

Thalassery, India

Government Engineering College Wayanad, Kannur University

Sep 2012 – May 2016

Bachelor of Technology in Electronics and Communication Engineering

Wayanad, India

Certifications and Publications

Microsoft Certified: Azure Data Scientist Associate

Sep 2024

Certification Number: ABN5EC-D62005

Publication: No-Reference Image Quality Assessment using Multi-Expert CNN

Jan 2018

Journal of VLSI Design and its Advancement