Shruti Sundaram

Postgraduate Student, MSc Computer Science (AI)

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shruti-sundaram Shruti-Sundaram

Master's student with prior work experience, and a keen interest in Natural Language Processing, Machine Learning, Databases and GenAI. Eager to apply my skills in a dynamic setting.

PROJECT PORTFOLIO: https://shruti-sundaram.github.io/ProjectPortfolio/

SKILLS

- Python
- Data Analysis
- Machine Learning
- HTML/CSS
- SQL
- Tableau
- Flask
- Angular

EDUCATION

MSc Computer Science (AI) 09/2023 – 09/2024 | Nottingham, UK
University of Nottingham

Semester 1: *Human-AI Interaction, Machine Learning, Handing Uncertainty using Fuzzy Systems*
Semester 2: *Big Data Technologies, Data Science with ML, Research Methods*

Bachelor of Technology, Information Technology 2017 – 2021 | Vellore, India
Vellore Institute of Technology (VIT)

Grade: A

PROFESSIONAL EXPERIENCE

AI Intern 05/2024 – present | Remote, UK
ND Spectra

- Developed a facial recognition-based attendance management system using Python, OpenCV, Keras, and Flask.
- Implemented student registration module capturing and preprocessing 20 facial images for model training.
- Trained a VGG16 model on the dataset, improving recognition accuracy.
- Automated attendance tracking by capturing photos, predicting Student IDs, and recording timestamps.

Technology Consultant 08/2021 – 07/2023 | Pune, India
FISERV

- Assisted with Oracle database management of Fiserv clients - executing queries, checking for tablespace usage, sending data files and taking backups.
- Analyzed Vulnerability Assessment reports, remediated vulnerabilities, and performed Windows patching to maintain IT compliance of client environment.
- Worked with software tools like ServicePoint, N-central, Client360.
- Awarded Fiserv Living Proof Award for client service achievement, process improvement ideas and monthly productivity.

Jr Consultant 04/2021 – 06/2021 | Pune, India
CENTELON

- Developed UI for an online banking system - Built an interface to insert, delete and update data in tables displayed to users using Typescript.
- Implemented Date-Picker feature, Drop down menu feature, Slider feature, Buttons, Icons, Menu & Card features using Angular.
- Collaborated with cross-functional teams, engaged in application testing, and fixed defects & bugs.

PROJECTS

FoodieFriend: NLP-based Food Order and Delivery Chatbot 11/2023
Natural Language Processing (NLP) Project

Designed a comprehensive chatbot system capable of handling user interactions, menu browsing, order placement, and payment processing.

Technologies used include Natural Language Processing (NLP), Python, NLTK, Jaccard Similarity, User-Centric Design Principles, Responsible Research and Innovation (RRI).

- Implemented intent identification using Jaccard similarity to accurately interpret user commands and generate appropriate responses.
- Integrated user identity tracking to personalize interactions by extracting and storing user names using POS tagging.
- Developed a question-answering module leveraging a pre-processed dataset to respond to user queries.
- Created a small talk functionality with a dataset of predefined conversational phrases for natural user interaction, enhancing user experience with conversational responses.
- Focused on prompt design, discoverability, context tracking, and personalization to create a user-friendly interface.

Water Pump Functionality Prediction in Tanzania 05/2023
Machine Learning Project

Developed a predictive model to classify water pumps in Tanzania as functional, needing repair, or non-functional using data from *Taarifa* and the Tanzanian Ministry of Water.

Implemented comprehensive data preprocessing, including cleaning, outlier handling, one-hot encoding, discretization, and normalization.

Models implemented:
- ***Voting Classifier:*** Combined Random Forest and XGBoost for ensemble learning. Achieved a balanced accuracy of 76% and a test accuracy of 75%.
- ***Gradient Boost:*** Achieved a balanced accuracy of 74% and a test accuracy of 73%.
- ***XGBoost:*** Achieved a balanced accuracy of 74% and a test accuracy of 73%.
- ***Decision Trees:*** Standard Decision Tree achieved a balanced accuracy of 66% and a test accuracy of 76%, while Decision Tree with Recursive Feature Elimination (RFE) achieved a balanced accuracy of 65% and a test accuracy of 75%.

Web Article Summarizer App 09/2024
LLM Project

- Developed a web-based application for summarizing web articles using a Large Language Model (LLM) and advanced NLP techniques.
- Implemented web scraping functionality with Requests and BeautifulSoup to extract article content from user-provided URLs.
- Utilized Facebook's BART-large model, that had been finetuned on CNN news articles, from Hugging Face's Transformers library to generate concise summaries.
- Implemented a recursive summarization function with dynamic chunking to process articles that exceed the model's token limit, ensuring the text is fully analyzed without truncation or information loss.
- Optimized text preprocessing by cleaning and tokenizing content to ensure high-quality input for the summarization model.
- Designed an interactive user interface using Streamlit, allowing users to input article URLs and receive real-time summary feedback.

CERTIFICATES

AWS Certified Cloud Practitioner
Issued Sep 2023