Shivani Gowda

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Education

Loyola Marymount University — Los Angeles, CA
Master of Science in Computer and Information Technology, GPA: 3.67 — *Aug 2021 – May 2023*
Received Outstanding Graduate award in Computer Science issued by Frank R. Seaver College of Science and Engineering

Amrita School of Engineering — Bengaluru, KA, IN
Bachelor of Technology in Electrical and Electronics Engineering, GPA: 3.43 — *Jun 2015 – May 2019*

Experience

Flavor App — Remote
Machine Learning Engineer (Contract) — Nov 2023 – Present

- Conducted data analysis for the development of a customized restaurant recommendation system.
- Reviewed project requirements and identified necessary data types to build an effective bot, which involved a deep understanding of the data needed for a robust recommendation system.

Pixstory.com — Remote
Machine Learning Engineer — Aug 2023 – Dec 2023
Machine Learning Intern — Jan 2023 – May 2023

- Large Language Models (LLM): Deployed LLMs using HuggingFace transformers, enhancing system efficiency through quantization for faster inference. Conducted comprehensive benchmarking to ensure optimal performance of various LLM's.
- Data Pre-processing Pipeline: Spearheaded the development of a pipeline for Pixstory's Retrieval Augmented Generation based conversation search. Leveraged Apache Airflow DAG's for orchestrating data and managing workflows efficiently. Managed both structured and unstructured data sets, including handling complex data. Conducted extensive preprocessing and transformation of unstructured data to fit into vector databases for efficient indexing and retrieval.
- Vector Database Management: Strategic selection and implementation of a cost-effective and reliable vector database, striking a balance between reliability and cost-efficiency to enhance system efficiency.
- Hate Speech Detection: Fine-tuned a transformer-based model, originally designed for translation, to handle hate speech detection across six languages and implementing various strategies to enhance both precision and recall..
- API Development and Integration: Developed a RESTful API for data collection, integrated it with a database, and hosted it on an Amazon EC2 instance. Implemented dashboard to monitor annotator performance and ensure data quality.

Loyola Marymount University — Los Angeles, CA
Graduate Research Assistant — Jun 2022 – Dec 2022

- Model Fine-tuning and Optimization: Optimized transformer-based models using GPU hardware acceleration and employed a range of evaluation techniques to better understand their performance.
- Data Analysis: Conducted in-depth analysis of data to enhance model predictions. Handled imbalanced classes and implemented strategies to improve model performance. Visualized data to gain insights and identify areas where the model was underperforming.
- Data Scraping: Used Selenium Chrome Driver (a tool for automating browsers) to efficiently gather valuable data from various online sources for further analysis.

IBM — Bengaluru, KA, IN
System Engineer — Dec 2019 – May 2021

- Efficiency Improvement: Improved the project's efficiency by 12% through the removal of bottlenecks and redundancies, and the implementation of efficient algorithms in the CPQ tool..
- Platform Migration: Contributed significantly to the team's migration to the RedHat OpenShift platform.
- Release Leadership: Led five minor releases, proactively resolved defects, and improved product quality, enhancing client trust.
- Performance Analysis and Optimization: Profiled system, compared performance between environments, and optimized system response based on analysis.

Skills

Languages: Python, C, Bash, Java, JavaScript, SQL
Tools and Technologies: Huggingface transformers, PyTorch, TensorFlow, Git, Unix Shell Scripting, Sklearn, AWS cloud platform, GCP, Amazon Elastic Container Service, Pandas, Power BI, Flask, Amazon SageMaker, Spark, SQLite, React.js, Postman, Selenium, Scrapy, SpaCy, NLTK, Apache airflow, Microsoft Excel, Docker, S3, DynamoDB.

Publications

- *Master's thesis:* Improving Multi-Modal Food Detection System with Transfer Learning
- Gowda, Shivani, Yifan Hu, and Mandy Korpusik. "Multi-Modal Food Classification in a Diet Tracking, System with Spoken and Visual Inputs." In ICASSP 2023-2023 IEEE ICASSP, pp. 1-5. IEEE, 2023.