Karneeshwar Sendilkumar Vijaya

+1 (469) 922-7009 | karneeshwarsv@gmail.com | linkedin.com/in/karneeshwar
github.com/karneeshwar | karneeshwar.github.io/portfolio/

EDUCATION

The University of Texas at Dallas   Dallas, TX
Masters of Science in Computer Science   *August 2021 - May 2023*

National Institute of Technology, Tiruchirappalli   Trichy, India
Bachelor of Technology in Production Engineering   *August 2013 - June 2017*

RELEVANT EXPERIENCE

Copart, Inc   Dallas, TX
AI Engineer   *July 2023 - Present*

- Developed an AI Router that can route requests to different available Large-Language Models (LLMs). Built applications using AI Router to solve major business problems such as data extraction, summarization, and transformation enabling decision making and automation throughout the organization.
- Performed Descriptive/Predictive Time-Series Analysis on the data gathered through the different business processes using Python packages to draw inferences. Developed pipelines to perform Time-Series predictions for a variety of granularities and optimized them through batch processing to handle large amounts of data.
- Developed and Trained a U2NET based salient object detection model in PyTorch with over 32000 data points of stratified vehicle image samples. Utilized this model to perform image enhancements such as background removal, background blur, studio background, and shadow generation.
- Built a distributed scheduling system using RabbitMQ, Celery, and Cron beats that can perform intensive computations based on a given frequency. This system being capable of horizontal scaling enabled running computation heavy machine learning models like U2NET without GPUs which helped in processing large numbers of requests in fairly quick time.

Renault Nissan Technology Business Centre India (RNTBCI)   Chennai, India
Software Automation Engineer   *July 2017 - April 2021*

- Implemented API end-points using Java Spring framework to allow engineering team users to directly retrieve vehicle performance data (read-only) increasing the availability of essential data to required teams.
- Created scripts in Databricks using Scala to completely automate ETL operations on semi-structured incoming vehicle data through Azure DataLake for Analyzing and Reporting tasks.
- Developed scripts in Python to automate the post-processing/reporting tasks in several engineering teams, enabling 40% reduction in the lead time of projects.

TECHNICAL SKILLS

Languages	: Java, Python, PySpark, HTML, CSS, Javascript, C++, MATLAB, R
Frameworks	: Spring/Spring boot, Flask, React, Bootstrap
Databases	: MySql, Postgresql, Solr, MongoDB, Bigquery
Cloud	: AWS (Lambda, EC2, S3), GCP (GCS, VertexAI, Biqquery), Azure (Databricks, DataLake)
Tools	: Maven, Docker, Jenkins, Postman, Git, Linux, LLM

PROJECTS

Twitter Streaming Sentiment Analysis, UT-Dallas | *PySpark, Kafka, Kibana, Docker*   *July 2022*

- Built a structured streaming app for sentiment analysis with text classification on filtered tweets (e.g., COVID-19) using the Twitter API via Kafka. Utilized Logstash, Elasticsearch, and Kibana for storage, visualization, and polarity analysis of tweets.

Plot Summary Based Search Engine for Movies, UT-Dallas | *Scala, SparkSQL, Databricks*   *June 2022*

- Constructed a search engine in Databricks using Carnegie Mellon University's Movie Summary Corpus (42,000+ movies) to recommend the top 10 closely related movies based on user input, utilizing MapReduce for TF-IDF and cosine similarity calculations for single-term and multi-term queries, respectively.

DoorDash Database System Design, UT-Dallas | *SQL*   *March 2022 - May 2022*

- Designed and implemented an Oracle SQL-based DoorDash system, including Entity-Relationship diagram design, relational modeling, and the creation of tables, triggers, and PL/SQL procedures. Triggers and procedures included age verification for dashers, monthly pay stub computation, and customer billing.