Jayaraman Sridharan

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EDUCATION

Master of Science - Intelligent Systems Engineering **August 2022 - May 2024**

Indiana University, Bloomington, IN

Relevant Courses: Machine Learning, Deep Learning Systems, Computer Vision, Graph Machine Learning, High-Dimensional Data Analysis, Engineering Cloud Computing

Bachelor of Technology - Electrical & Electronics Engineering **2015 - 2019**

SKILLS

Machine Learning, Deep Learning, Computer Vision, NLP, xAI, Generative Models, MLOps

Libraries: Tensorflow, Pytorch, Hugging Face, Scikit-learn, XGBoost, PySpark, Django, Flask

Languages: Python, SQL, JavaScript, HTML, CSS, R, C++

Cloud & Data: GCP, Terraform, Snowflake, Docker, Apache Beam, Dataflow, BigQuery

EXPERIENCE

Senior Systems Engineer - Machine Learning, *Infosys, India* **Jan 2021 - July 2022**

• Developed an automated invoice processing system that reduced manual processing time by 95%. Engineered an OCR pipeline by training an object detection model to identify tables in invoices and extract text from scanned PDFs of invoices.

• Leveraged NLP libraries and models like spaCy, NLTK and HuggingFace to build multiple proof of concept projects. Trained multiple models and deployed them as APIs for Named entity recognition, Sentiment Analysis, Text Summarization and Similarity Detection.

• Utilized Explainable AI techniques (LIME, SHAP, Grad-CAM) to interpret machine learning model decisions by highlighting influential input features and their respective contributions.

• Containerized multiple ML applications and APIs using Docker for seamless deployment.

Systems Engineer, *Infosys, India* **Nov 2019 - Jan 2021**

• Migrated PowerQuery views to Snowflake using SQL and developed procedures and tasks for effective database management.

• Instrumental in the seamless transition from a monolithic legacy application to a modern microservices architecture using Angular and Node.js.

PROJECTS

Parameter-Efficient Fine-Tuning of LLMs using LoRA

• Implemented LoRA from scratch to finetune Large Language Models on a single GPU.

Image Colorization using Generative Model

• Trained autoencoders and Generative Adversarial Network to colorize black & white images.

Odor Classification using Graph Neural Networks

• Trained and evaluated various GNNs to predict odor descriptors from molecular structures of compounds.

Named Entity Recognition using LSTM

• Developed a NER system, improved its accuracy by using Part-of-Speech tags as additional features.

Cloud Document Processing Pipeline using Apache Beam

• Created a Scalable pipeline using Beam & Dataflow to process multitude of documents.

Disaster Response Messages Classification

• Created an ETL and ML pipeline to load, store and classify the messages using a Random Forest model.

AWARDS & CERTIFICATIONS

Winner of the AI Blitz #3 Hackathon - OCR, Sentiment Analysis, Image Segmentation

Open AI Caribbean Challenge: Top 2 % - Satellite Image Classification with CNNs

RSNA Intracranial Hemorrhage Detection Hackathon: Top 12 % - CT Scans Classification

Deep Learning Specialization - Deeplearning.ai, Coursera

Google Cloud Certifications - Professional Data Engineer, Professional Cloud Architect, Associate Cloud Eng.