PRATISHTHA SONI

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SUMMARY

- Software Engineer with a Master's in Computer Science and over 5 years of experience applying Al and machine learning to solve • complex business problems and enhance customer experiences.
- Strong passion in developing end-to-end Al-powered solutions, including customer analytics, and lifecycle management in • multi-cloud environments (AWS and Azure).
- Published researcher in Machine Learning, with papers presented at prestigious conferences such as <u>AIMHC-IEEE</u> and <u>EC BIOS-IEEE</u> in 2024, focusing on innovative applications in the Healthcare and social services domain.
- Contributed to agricultural technology advancements, with publication on Agricultural Crop Yield Prediction Using Artificial . Intelligence and Satellite Imagery in Eurasian Journal of Analytical Chemistry 2019.
- Recognized for excellence, awarded Spot Award for the Automation of Data Extraction in L&T Technology Services Limited in 2021.

SKILLS

Languages : Python (pandas, NLTK, PyTorch, Tensorflow), C++, SQL Tools & IDE's : Microsoft SQL Server, MongoDb, Github, Git

Cloud Services : Amazon Web Services (AWS), Azure

Web Technology : Flask, Kafka, API Development, Docker, Postman

PROFESSIONAL EXPERIENCE

AI Software Engineer Intern, StarTek, Denver

- Automated quality assurance workflows using Prompt Engineering and OpenAI LLMs, integrated via AWS Lambda, to analyze • customer-agent transcriptions, improving response accuracy by 90%.
- Designed a scalable, serverless call analytics platform using Docker, AWS Lambda, S3, DynamoDB, and API Gateway, enabling . real-time insights and processing for up to 5,000 users.
- Implemented a Retrieval-Augmented Generation (RAG) pipeline with semantic search and embedding generation in AWS • OpenSearch in VPC, integrating LangChain and Azure OpenAI models to generate actionable insights and automate quality assurance.
- Built microservices-based solutions with CI/CD pipelines, enhancing agent query efficiency by 25% and reducing costs by 40%.

ML Research Associate, California State University Fullerton, CA

- Developed scalable predictive models using SSD MobileNet V2 and transfer learning for image processing to address business problems.
- Utilized TensorFlow, Keras, PyTorch, and OpenCV frameworks for model implementation and data preprocessing.

Senior Python Developer, ValueLabs, Hyderabad, India

- Enhanced scalability and availability by developing and testing REST APIs for client website integration, resulting in 50% cost reduction and improved process debug time.
- Streamlined the deployment of Kafka producer and consumer scripts using CI/CD tools, automating live data integration across multiple topics and resolving issues for over 1,000 requests efficiently.

Software Engineer, L&T Technology Services, Vadodara, India

- Identified patterns from unstructured documents and extracted features by leveraging Natural Language Processing (NLP), led to ٠ 70% accuracy and improved the quality and reliability of the data, saving 25 hours of manual work per week.
- Revealed actionable insights by leveraging PowerBI and advanced SQL queries across PostgreSQL and SQL Server databases to analyze complex datasets, enabling data-driven decision-making and improving business strategy effectiveness.
- Automated web scraping of selected features applied statistical analysis with 80% accuracy from websites by using Selenium and . following Agile principles for iterative improvements.
- Executed tabular data extraction and export to a predefined report format by executing data integration scripts using SSIS to read .json and .xlsx files, enhancing scalability and reducing manual data entry processes by 40%.

ACADEMIC PROJECTS

NYC Automated Traffic Volume Counts (pandas, hadoop, java, spark, pyspark, SQL, HDFS)

Utilized big data tools to analyze diverse data trends through Spark queries on GCP within the Hadoop framework, leading to improved business intelligence and scalable data insights.

Crop Yield Prediction using Artificial Intelligence and Satellite Imagery (opencv, scikit-image, tensorflow, pytorch)

Implemented a rule-based system to predict crop yield from a pool of GIS data by applying ANN and CNN with 89% accuracy.

EDUCATION

California State University Fullerton, USA - Master of Science, Computer Science SRM Institute of Science and Technology, India - Bachelor of Technology, Computer Science and Engineering

February 2022 - Aug 2022

March 2023 - May 2024

June 2019 - February 2022

September 2024 - Present