

Sree Avinash

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Education

Florida State University, MS in Computer Science, GPA: 3.7/4.0 Aug 2022 – May 2024

- **Coursework:** Advanced Data Science, Grad project for Data Science, Artificial Intelligence, Analytical Methods.

GITAM University, BS in Computer Science, GPA: 7/10 June 2016 – Nov 2020

- **Coursework:** Data Structures Algorithms, Operating Systems, Machine Learning, Cryptography, DBMS.

Experience

Software Engineer, IQ Hector – Dallas, TX June 2024 – Present

- Developed responsive web UI/UX interfaces using React, HTML, CSS, and JavaScript.
- Integrated Django REST Framework for building APIs, enabling communication between client and server
- Achieved a 33 % reduction in query runtime by optimizing SQL/Pandas queries for data retrieval from Redshift.
- Designed and created 5+ AWS QuickSight dashboards, visualizing key performance metrics for decision making.
- Deployed machine learning models on Vertex AI, optimizing feature selection and hyperparameters through AutoML, leading to a 30% increase in model accuracy for fraud detection.
- Led meetings with stakeholders to present results, translating technical data into actionable business insights.
- Developed a RAG system with FastAPI and Streamlit, integrating OpenAI API for query-based document retrieval and response generation using LangChain and ChromaDB.

Software Engineer, Tech Mahindra – India Jan 2021 – July 2022

- Developed an application using React, Python, and Flask to deploy the ML model to production.
- Designed a responsive and interactive UI using JavaScript, HTML, and CSS to enhance the user experience.
- Collaborated with cross-functional teams to manage requirements, workflows, and optimize data operations.
- Designed and implemented Apache Airflow DAGs for automating ETL workflows, integrating data from sources like AWS S3, PostgreSQL, and APIs into Snowflake, optimizing data processing and reliability.
- Designed and implemented test automation scripts with Selenium and Python for Business as Usual Tasks (BAU), contributing 70 % to the automation codebase, reducing manual workload by 40 hours weekly.
- Developed advanced DML and DQL MySQL queries for generating reports as requested by the clients.
- Automated tasks using cron jobs in Linux, ensuring timely and consistent generation of scheduled reports.
- Audited AWS EC2 health checks, managed IAM security, and handled AWS S3 data via CLI on Linux.
- Troubleshoot errors using the ELK stack (95% SLA resolution), monitored networks with Grafana, resources with Dynatrace, and production servers via AWS SQS and CloudWatch.
- Documented technical solutions and 25 + standard operating procedures to address incidents.

Technologies

Languages: Python, SQL, Java, JavaScript, Spark, SAS.

Web Technologies: HTML, CSS, React, Streamlit, Django, Flask, FastAPI, REST, JQuery, JUnit, Spring.

Databases: MYSQL, MS SQL, PostgreSQL, MongoDB, Snowflake, PowerBI, Tableau, QuickSight.

Cloud & DevOps: AWS , Azure, GCP, Git, Docker, Kubernetes, Terraform, Grafana, Kibana.

CyberSecurity: NMAP, Burp Suite, OWASP, Metasploit, Nessus, Wireshark.

Gen AI / NLP: Hugging Face, OpenAI API, GPT-4o-mini, BERT, BART, Langchain, Langsmith.

Data Science: Pandas, NumPy, Matplotlib, Scikit-learn, TensorFlow.

Research Publications

- **Automating Nuclei Detection and Segmentation in Cells.** Machine Learning, Python, image processing.
- **Digital payments using Facial Recognition.** Python, LBPH, Face Recognition, Computer Vision, MFA.

Projects

Exploratory Data Analysis on Isotopic data. Machine Learning, AWS Redshift , Clustering , Python, SQL.

- Executed exploratory data analysis on isotopic unstructured data from 500 coal water samples on AWS.
- Crafted intricate SQL queries within Amazon Redshift to retrieve and manipulate data effectively.
- Implemented UMAP and Kernel PCA clustering methodologies, improving data segmentation by 30%.
- Identified key data patterns and provided actionable insights to lab researchers.

House Prices Prediction Dashboard. Trend Analysis, Scikit-learn, Pandas, Data Visualization, Tableau.

- Cleaned and pre-processed Zillow house price data using SQL and Excel.
- Performing exploratory data analysis in Tableau to visualize relationships and identify key price drivers.
- Developed Python-based predictive models with Scikit-learn and Pandas for price prediction.

NBA Web Scrapping and Match Prediction. Python, Web Scrapping, Predictive Modeling, Power BI.

- Scraped NBA player statistics from multiple sports websites using Beautiful Soup.
- Cleaned and preprocessed data using Pandas for predictive modeling.
- Developed predictive models with Scikit-learn and presented insights in Power BI.

Accenture Data Analytics and Visualization. Data Modeling, Data Visualization, Excel, Tableau.

- Developed data models and interactive Tableau dashboards for business decisions and stakeholder insights.
- Leveraged Excel for advanced data analysis, visualizations, and presentations.
- Designed presentations to effectively communicate complex data insights to stakeholders.

Document Summarizer. Natural Language Processing, BART Model, Python, Text Extraction (PyPDF2).

- Developed an application to extract and summarize content from PDF and Word documents.
- Integrated Hugging Face's pre-trained BART model for text summarization.

Fraud Detection Model Deployment with Vertex AI and AutoML . Vertex AI, AutoML, Pandas, Python.

- Developed and deployed a fraud detection model on Vertex AI using AutoML for anomaly detection.
- Processed transactional data using Pandas and implemented feature engineering techniques.

Query-Based Document RAG system. OpenAI API, Gpt-4o-mini, FastApi, Python, Langchain, ChromaDB.

- Built scalable document retrieval and response generation using FastAPI and LangChain.
- Integrated ChromaDB for efficient document storage and retrieval with OpenAI API for context-aware responses.
- Designed an interactive frontend with Streamlit to enhance user experience and query results.

Awards & Certifications

- Secured 3rd place 'Cyber Security in Digital India Hackathon AI/ ML', by Virtusa.
- Participated in 'Curate-a-thon on Cyber Security AI /ML ', issued by the Data Council of India.
- Certificate for completion of "Solutions Architecture Job Simulation" by Forge.
- Certified - Microsoft Azure Fundamentals.
- Certified - Oracle Cloud Infrastructure Associate.
- Certified - Introduction to Cyber Security by Cisco Network Academy.