AJAY ARYAN

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Summary

Experienced Data Scientist and Software Engineer with expertise in data engineering, machine learning, and financial modelling. Proven track record of leading cross-functional teams, developing scalable applications, and leveraging advanced analytics to drive impactful business decisions. Skilled in Python, SQL, AWS, NLP, and data visualization. Passionate about delivering high-quality solutions in fast-paced environments.

Skills and Technologies

- **Programming Languages & Tools :** Python, SQL, Java, LaTeX, Git, React
- **Cloud & Infrastructure:** AWS (EC2, S3, IAM, Athena, SageMaker, Amplify, VPC), Kubernetes, MongoDB, Databricks
- **Machine Learning & AI:** Supervised & Unsupervised Learning, NLP (BERT, Transformers), TensorFlow, PyTorch, Scikit-learn, LangChain, Gen AI, RAG, Time Series Forecasting (LSTM)
- **Data Science & Analytics**: Pandas, NumPy, Alteryx, Advanced Excel, Matplotlib, Seaborn, Tableau, Power BI
- **Financial Modelling & Analysis:** Asset Liability Management (ALM), Financial Modelling
- **Web3 & Blockchain**: Tokenization, Web3
- **Development Tools & Platforms:** Claude, Airflow, JIRA, Spark

Work Experience

SNTIMNT, Florida (Team Lead)   Jan 2025 – Apr 2025

- Led a cross-functional team of five interns, including a Quant, an ML specialist, and a Developer, to build a cutting-edge sentiment-driven crypto trading bot. Oversaw the development of a scalable sentiment analysis pipeline integrated with API-driven buy/sell automation to track trending cryptocurrencies in real-time, significantly improving trading efficiency by 70%.
- Spearheaded the integration of Hugging Face transformers, fine-tuning pre-trained BERT models specifically on crypto datasets to optimize market trend capture. Leveraged AWS EC2 and GPU resources to accelerate computation, and AWS S3 for secure data storage, reducing model deployment time by 75% from 8 hours to under 2 hours using AWS SageMaker.
- Implemented agile workflows using Jira and GitHub to drive efficient sprint execution and foster team collaboration. Optimized data processing with SQL and NumPy, significantly reducing analysis time for large datasets.
- Created insightful visualizations using Matplotlib and Seaborn, providing clear performance metrics to guide strategic decision-making. Hosted dynamic websites on AWS Amplify and managed custom domains via Route 53, ensuring seamless user experience

TedxFSU, Florida (Venue and Tech)   Dec 2024 – Apr 2025

- Contributed to the success of TEDxFSU as a member of the Venue and Tech Team, where I combined technical skills and creativity to enhance the event experience. I took charge of updating and maintaining the TEDxFSU website, ensuring it was fully functional and aligned with event goals. I also collaborated with the team to design and implement innovative venue setups, optimizing both the technical and physical aspects to create a seamless event atmosphere.
- In addition, I served as a speaker coach and worked closely with the speaker to refine her presentation, offering feedback and coaching to help her deliver her ideas with confidence and clarity. This experience allowed me to blend technical expertise with communication skills while guiding others to effectively share their message.

Erdos Institute (Data Science Bootcamp)   May 2024 - Jul 2024

- During the summer, I enrolled in the Erdos Institute Data Science Bootcamp, where I immersed myself in the world of time series forecasting and machine learning models. The bootcamp provided me with a deep understanding of statistical methods and advanced machine learning techniques, specifically geared towards predicting trends and making data-driven decisions in the financial sector.
- I applied these skills to a project focused on stock market prediction, where I leveraged time series analysis to model and forecast stock prices. By working with historical data, I employed techniques such as ARIMA, exponential smoothing, and machine learning models like decision trees and random forests to build predictive models. My ability to fine-tune the models allowed me to achieve a high level of accuracy in forecasting stock price movements, which was a key accomplishment of the project.
- Throughout this experience, I gained hands-on knowledge of financial analysis, learning how to interpret financial data and trends while applying machine learning to enhance predictive accuracy. I also explored

various performance metrics to evaluate the models, ensuring that the predictions were both actionable and reliable.
- The success of this project further fuelled my passion for data science in the financial sector. Since completing the bootcamp, I have continued working in this field, refining my forecasting models and exploring more advanced techniques, including deep learning and reinforcement learning for trading strategies. This experience has solidified my foundation in both data science and financial analysis, enabling me to contribute effectively to projects at the intersection of these two domains.

Capgemini Technology Services, MH, IN (Data Engineer-Associate II)   Feb 2021 – Jul 2023
- As a Data Engineer-Associate II at Capgemini, I played a pivotal role in deploying machine learning models, utilizing TensorFlow to enhance NLP tasks, resulting in a 30% improvement in text classification accuracy. I streamlined data preprocessing workflows, cutting runtime by 20%, which directly boosted system performance and efficiency.
- I successfully automated various tasks using Python and LangChain, eliminating manual effort and improving overall process efficiency by 60%. Additionally, I developed a React-Vite-based dashboard that significantly enhanced user engagement and simplified the deployment process for our team.
- Collaborating closely with cross-functional teams, I contributed to the end-to-end development and deployment of data-driven products, ensuring seamless integration and high-quality delivery. My efforts in training and mentoring new employees fostered a collaborative and productive environment, helping them quickly adapt to team processes and technical tools.
- I also designed and implemented web scraping solutions that extracted valuable data, enabling business insights and decision-making. During the COVID-19 period, I leveraged remote troubleshooting tools, including Putty, to maintain uninterrupted service by addressing system errors and ensuring smooth functionality across devices.
- In addition to my development work, I gained hands-on experience in both manual and automated testing. I conducted rigorous quality assurance processes to ensure high standards in product performance, identifying and resolving issues to maintain system reliability and customer satisfaction.
- Throughout my time at Capgemini, I consistently improved system reliability, optimized performance, and delivered impactful solutions that drove business growth, making substantial contributions to the company's technological advancements.
- Experienced in analysing and preparing balance sheets to support financial planning and decision-making.

Geneobits Pvt. Ltd. (Data Analyst Intern)   Jan 2020 – Jun 2020
During my internship at Geneobits, I gained hands-on experience in data analysis and processing. I worked with large datasets, performing data cleaning, validation, and transformation tasks to ensure data integrity and consistency. I also used statistical tools and Python libraries like Pandas and NumPy to analyze trends and generate insights that informed decision-making. My work contributed to optimizing operational processes and improving data reporting accuracy for internal stakeholders. This internship laid the foundation for my deep interest in data science and analytical methodologies.

Certifications
- AWS Cloud Certification CLF-C02
- Google Data Analytics Professional Certificate
- Financial building and Forecasting

Projects

Dynamic Airlift [Link]   Sep 2024 – Nov 2024
- Developed a Python pipeline to fetch, analyze, and visualize NYC air quality data using OpenWeatherMap API.
- Built an automated data pipeline using Airflow for real-time updates, reducing manual effort by over 50%.
- Built an interactive dashboard with Matplotlib, Seaborn, and Plotly for real-time pollution monitoring.
- Applied statistical analysis to identify trends, correlations, and threshold exceedances in air pollutants.

Stock Price Prediction [Link] [PPT]   May 2024 – July 2024
- Developed and Optimized ML models for stock price prediction with accuracy of 85% using time series forecasting.
- Implemented and fine-tuned LSTM networks to capture complex temporal dependencies in financial trends.
- Enhanced model performance through comprehensive EDA, feature engineering, and AI-driven analytics tech.

Chronic Disease Prediction [Link]   Sept 2023 – Nov 2023

- Developed predictive models for disease prediction using GridSearchCV, increasing model accuracy to 90%.
- Enhanced data visualization with Tableau to get better insights, improving stakeholder comprehension by 35%.
- Conducted data analysis with KNN and Naive Bayes to effectively target high-risk demographics.

Education

Florida State University, (Master's) - Data Science (Mathematics, GPA: 3.7/4)   Aug 2023 – May 2025
- Developed predictive models with 92% accuracy using neural networks for trend forecasting.
- Applied Bayesian inference, PCA, and dimension reduction techniques to enhance feature selection and performance.
- Conducted research on regularization techniques (L1, L2) and ensemble learning to improve regression model.

Pune University (Bachelor's) – E&TC (GPA - 3.78/4)   Aug 2016 - May - 2020
- Developed an advanced IoT-based monitoring system with MQTT, effectively reducing energy consumption by 20%.
- Built a strong foundation in ML, signal processing, and embedded systems using Python, MATLAB, and C programming.

Soft Skills
- **Leadership & Collaboration:** Team Leadership, Mentorship, Cross-Functional Collaboration, Stakeholder Management
- **Project & Time Management:** Project Management (Agile, Jira), Scrum & Sprint Management, Time Management
- **Communication & Client Management:** Client Relationship Management, Effective Communication, Documentation & Reporting, Collaboration in Remote Teams
- **Problem-Solving & Adaptability:** Critical Thinking, Problem-Solving, Conflict Resolution, Adaptability & Flexibility

Extracurricular Activities
Running, Hiking, Football, Cooking, Reading, Painting, Workout, Board games