# Jaswanth K S

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## Personal Profile_____

Software Engineer with nearly 4 years of experience building data-driven and cloud-based applications using Python, AWS, SQL, and DevOps tools. Recently pursued an MSc in Data Science and AI at the University of Liverpool. Experienced in designing and optimizing high-throughput ETL workflows and backend services for large-scale financial and operational datasets. Strong understanding of scalable system design, performance optimization, and data integrity across distributed systems. Passionate about developing reliable, high-performance systems and eager to contribute to FactSet's mission of delivering world-class financial data and analytics.

## Education_____

**MSc in Data Science and Artificial Intelligence, Merit | University of Liverpool | Sept 2023 – Sept 2024**
- **Modules:** Applied AI, Mathematics & Statistics for AI Database & Information Systems, Data Mining.
- Developed expertise in **machine learning** and **data analytics** with a focus on **Python**.

**Bachelor of Science, Distinction | Sri Venkateswara University, India | Jun 2018 – Sept 2021**
- **Relevant coursework:** Computer Science, Mathematics, Physics.

## Experience_____

**Growz Software Solutions - Software Engineer | Nov 2021- Aug 2023 | Bengaluru, INDIA**
- Engineered cloud-based **data pipelines** for migrating structured legal data to **AWS**, improving system uptime and reliability by **30%**.
- Built microservices using **AWS Lambda** and **Python** to automate ETL workflows and API interactions, reducing manual intervention by **45%**.
- Optimized database performance by automating secure data synchronization between on-premises **PostgreSQL** and **AWS RDS** using **SQLAlchemy**.
- Designed containerized deployments with **Docker** and implemented **CI/CD** pipelines (Git, Jenkins), accelerating deployment cycles by **40%**.
- Used Terraform to automate AWS resource provisioning and configuration for Lambda and EC2 deployments.
- Drove test coverage to **95%** through Test-Driven Development (**TDD**) using **Pytest**, ensuring robust, production-grade code.

Tech Stack: **Python, AWS (Lambda, Glue, DynamoDB, SQS, RDS, S3, EC2), SQLAlchemy, PostgreSQL, Docker, CI/CD, TDD, Pytest.**

**Junior Software Engineer| TechBorn IT Solutions | Bengaluru, India | Sep 2019 – Oct 2021**
- Developed and optimized high-throughput backend web services using **C#** and **.NET Core**, supporting data-driven features across internal applications.
- Used **C#** (.NET Core) for backend endpoints, integrating with **SQL Server** to manage data models, queries, and stored procedures for data-intensive operations.
- Participated in migration of legacy on-premises data workflows to **AWS** (EC2, S3), improving stability and speeding up deployments.
- Worked in **Agile** team, using **Git** for version control, peer reviews, and continuous integration to maintain code quality and consistency.

Tech Stack: **C#, .NET Core, SQL Server, Python, AWS (EC2, S3), Git, REST APIs.**

# Key Projects_____

### Building a National Lottery Profit/Loss Simulator – Dissertation

- Built a full-stack lottery simulation platform using **Python** (Flask), **SQLAlchemy**, and **SQLite**, supporting **5** game formats and **100+** countries with dynamic currency and ticket pricing.
- Engineered secure backend architecture with user authentication, session management, input validation, and country-specific game logic.
- Developed **REST**-style routes and reusable modules to handle lottery draws, prize logic, and simulations across thousands of iterations.
- Integrated **Plotly** Express for real-time backend driven data visualizations (profit/loss trends, total spent vs won), enhancing analytical clarity.
- Optimized systems performance to handle up to **50,000+** simulations, tested across major browsers.

Tech Stack: **Python, Flask, SQLAlchemy, SQLite, Plotly Express, Bootstrap, JavaScript.**

### NYSE Time Series Forecasting

- Developed a machine learning model for time series forecasting, leveraging **ARIMA**, **SARIMA**, and **LSTM** to **predict stock price movements**.
- Analysed stock price data using **Pandas** and evaluated model predictions against real market data to fine-tune accuracy.
- Designed and implemented an interactive UI using **Flask** and **HTML/CSS** to visualise stock predictions, allowing users to dynamically interact with the data and forecast results.
- Integrated **Plotly** for real-time charting of stock prices, enabling seamless data exploration and enhanced decision-making for users.

Tech Stack: **Python, Pandas, NumPy, Statsmodels, TensorFlow/Keras, Scikit-learn, Flask, HTML, CSS**

# Skills_____

- Languages & Frameworks: **Python, C#, SQL, R, C++ (learning)**
- Cloud & DevOps: **AWS (Lambda, EC2, S3, RDS, Glue), Terraform, Docker, Jenkins, CI/CD**
- Web Services: **.NET Core, Flask, Django, FastAPI, RESTful APIs**
- Databases: **SQL Server, PostgreSQL, MySQL**
- Testing & Automation: **Pytest, TDD, Git, GitHub, Postman**
- Data & ML: **Pandas, NumPy, Scikit-learn, TensorFlow, Plotly**
- Operating Systems: **Linux, Windows**

# Certifications_____

- Essentials in Github Professional Certificate - **GitHub**.
- Programming with Python Professional Certificate - **OpenEDG Python Institute**.
- Learning Python (2021) - **LinkedIn**.
- Docker Foundations Professional Certificate - **Docker**.

# Activities_____

- Led a team of 5 to secure a **top 3 finish** in a 24-hour hackathon, showcasing innovation and teamwork.
- Presented a technical paper at **SIGMOID-2K19**, effectively communicating complex concepts to a technical audience.