

# Abhinava Sai Bugudi

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Portfolio: [abhinavabugudi.xyz](https://abhinavabugudi.xyz)

## Professional Summary

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First Class Software Engineering graduate with a proven track record in building **high-concurrency backend systems**, **AI-driven pipelines**, and **scalable cloud infrastructure**. Expert in **Java**, **Python (Pandas, Matplotlib)**, and **AWS**, with professional experience engineering services processing **60,000+ records/cycle**. Specialized in bridging the gap between complex behavioral algorithms and production-ready physical actuation. Strategic problem-solver and former Chess Society President with a focus on system reliability and performance optimization.

## Experience

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### Software Engineering Intern (AI Developer Track)

*BuzNear Sanspro Technologies*

Jun 2024 – Sep 2024

- Engineered and optimized Python backend services for **AI model deployment**, utilizing **Pandas** for complex data manipulation across **60,000+ records** per cycle.
- Developed automated data visualization modules using **Matplotlib** to monitor model performance, training accuracy, and data drift for senior stakeholders.
- Built and maintained **RESTful API endpoints** with strict input validation and data modelling, ensuring sub-second inference times.
- Performed **Root-Cause Analysis (RCA)** on system-wide failures, resolving environment misconfigurations and service bottlenecks in a fast-paced Agile environment.
- Implemented comprehensive **logging, unit tests, and fault handling** to ensure 99.9% stability of AI-driven production pipelines.

### IT Support / AV & Systems Support Technician

*University of Westminster, London*

2022 – 2024

- Managed digital infrastructure and user identity for **100,000+ potential users** using **Active Directory** and **Microsoft 365** administration.
- Developed **Python-based automation scripts** for a "Self-Healing Infrastructure" project, reducing manual triage workload by proactively resolving application-level errors.
- Executed high-volume device provisioning and **OS imaging** (Windows 10/11) using **Microsoft Intune** for standardized, secure asset deployment.
- Troubleshooted complex networking issues involving **TCP/IP, DNS, and DHCP** protocols to maintain maximum uptime for campus activities.

## Projects

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### Java Order Processing Platform (Backend Engineering)

*Independent Project*

2024

- Architected a high-throughput Java backend handling **400–600 operations/sec** using **OOP principles** and multithreaded **concurrency**.
- Reduced average processing latency by **64%** (from 250ms to **90ms**) through rigorous **kernel-level profiling** and code refactoring.

- Implemented SQL-backed persistence with optimized transaction handling, achieving sub-15ms query execution times.

## **VolvoxForex Cloud Platform (Full Stack & Cloud Infrastructure)**

*Independent Project* • [volvoxforex.online](https://volvoxforex.online)

2023 – Present

- Developed a full-stack platform using **AWS (S3, ECS, Lambda)** and **Docker** for automated, scalable cloud deployment.
- Built robust **monitoring and logging** dashboards to proactively identify production failures and audit query performance.
- Managed integrated **SQL workflows** for large datasets, ensuring query responsiveness and data consistency.

## **Voxscribe Handwriting Recognition App (AI & ML Mobile App)**

*Final Year Project*

2024 – 2025

- Engineered an end-to-end **AI-integrated application** utilizing a Python backend and **ML-based** recognition models.
- Leveraged **Pandas** for metadata preprocessing and **Matplotlib** for analyzing model accuracy trends during iterative training.

## **Technical Skills**

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**Languages:** Java, Python (Expert), SQL (Advanced), JavaScript, basic TypeScript, Bash/PowerShell

**AI & Data Science:** Pandas, Matplotlib, Scikit-Learn, ML Integration, Behavioral Algorithms, Data Wrangling

**Backend & Cloud:** REST APIs, Flask, Node.js, AWS (ECS, S3, Lambda), Docker, CI/CD, Git, GitHub Actions

**Databases:** PostgreSQL, MySQL, SQL Server (Admin), Redis

**Systems:** Linux/Unix Internals, Networking (TCP/IP, DNS, DHCP), Active Directory, Microsoft Intune

**Practices:** Agile/Scrum, TDD, Code Reviews, Root-Cause Analysis, Capacity Planning, Observability

## **Education**

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**BEng Software Engineering, First Class Honours**

*University of Westminster*

2025

- **Key Modules:** Algorithms & Complexity, Distributed Systems, Software Architecture, Database Systems.

## **Certifications**

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- **Data Science with Python and R**
- **SAS Big Data Analytics Specialisation**
- **SQL Server Administration**

## **Additional Information**

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**President, Westminster Chess Society (50+ members):** Applied strategic logic and leadership to community growth.

**Interests:** Distributed Systems, AI Actuation, Real-time Performance Tuning, High-Scale Infrastructure.