Vedant Rakesh Abrol

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PROFILE SUMMARY

Software Engineer and **Data Analyst** with expertise in full-stack development using **Java**, **Scala**, **C++**, and **Python**. Skilled in building scalable **APIs** and optimizing databases with performance tuning (**SQL/NoSQL**). Proficient in **AWS** cloud technologies, **Docker containerization**, and Jenkins **CI/CD** pipelines for efficient deployment, **data processing**, and system reliability.

EDUCATION

BITS Pilani, Goa, India May 2019 – May 2023
B.E. in Electronics and Instrumentation (with **C.S Electives**)

New Jersey Institute of Technology (NJIT), U.S.A Aug 2023 – May 2025
M.S. in Computer Science

TECHNICAL EXPERIENCE

Software Engineer Intern, SCIENAPTIC AI (New York) Aug 2022 – Aug 2023

- Enhanced Scienaptic's AI-driven credit underwriting platform with efficient **back-end logic** and responsive **front-end features**.
- Improved processing efficiency by **15%** via query optimization and code restructuring in **large-scale graph databases**.
- Designed **scalable APIs**, reducing loan approval time by **30%** and ensuring seamless functionality using Postman for testing.
- Integrated **ML models** into the decisioning platform, enhancing predictive accuracy and risk management.
- Built **CI/CD pipelines** to streamline deployments, reducing manual intervention and improving delivery speed by **20%**.
- Worked closely with **cross-functional teams** to translate business requirements into technical solutions, ensuring compliance with industry standards and regulations.

Summer Research Intern, New York University (NYU) Jun 2022 – Jul 2022

- Conducted research on additive manufacturing **cybersecurity** under Prof. Nikhil Gupta (**NYU Tandon School of Engineering**), focusing on securing CAD files and addressing vulnerabilities in 3D printing.
- Developed security measures for direct digital manufacturing and participated in **Hack3D** to prevent **cyber-attacks**.

Freelance Coder, OUTLIER AI (Remote)

- Evaluated and optimized AI-generated code while **managing SQL pipelines** for Flamingo Coding's MultiTurn Deviations.
- Conducted performance evaluations and **analyzed large datasets** to extract actionable insights, improving model accuracy.

TECHNICAL SKILLS

Languages and Frameworks: Java, Scala, Python, C++, ReactJS, NodeJS, TypeScript, Play Framework, Spring Framework
Tools: Docker, Kubernetes, Jenkins, Terraform, AWS (EC2, S3, Lambda), SQL Developer
Databases: MySQL, MongoDB, Cassandra, JanusGraph

PROJECTS

Personalized Event Recommendation Engine (GitHub Link)

- Developed a full-stack recommendation engine using the **TicketMaster API** to suggest events based on **geolocation** and **user preferences**.
- Implemented **secure user authentication**, designed algorithms for personalized recommendations, and integrated geolocation features.
- Managed data with **MySQL** and **MongoDB,** created **RESTful APIs**, and built a responsive UI, deploying the backend with **Java** on **Apache Tomcat**.

HackNJIT MLH Challenge - POS Receipt Data Analysis for Star Micronics (GitHub Link)

- Developed a **data processing pipeline** using **AWS** services (S3, Lambda, Athena) to analyze and visualize POS receipt data in .stm format.
- Automated cloud infrastructure setup with **Terraform** for scalable storage and efficient querying.
- Created interactive dashboards in **PowerBI** for real-time analytics and performance insights.

AWS Image Recognition Pipeline (GitHub Link)

- Developed a cloud-native application using **AWS** services (**EC2, S3, SQS, Rekognition**) for image recognition.
- Achieved **100%** accurate identification and extraction of cars and text from datasets with **80%+** confidence thresholds.
- Implemented solutions using Java on **Amazon Linux VMs**, optimizing cloud resource usage.

Sales Forecasting Model for Retail Analytics (GitHub Link)

- Developed and optimized predictive models using **XGBoost** to forecast monthly sales across shops and product categories.
- Performed feature engineering, merged datasets, and improved predictions with **hyperparameter tuning**.
- Implemented cross-validation and evaluated model performance using **RMSE** for reliable sales forecasts.