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 database performance. Proficient in cloud technologies like AWS, containerization with Docker, and continuous integration with Jenkins, ensuring efficient deployment pipelines, data processing, and high system reliability.

TECHNICAL EXPERIENCE

Software Engineer Intern, SCIENAPTIC AI   08/2022 – 08/2023

- Enhanced Scienaptic's AI-driven credit underwriting platform by implementing efficient **back-end** logic and responsive **front-end** features.
- Improved processing efficiency by **15%** by optimizing complex queries and code structures in large-scale **graph databases** leading to faster data retrieval and processing
- Designed, implemented, and validated scalable **APIs** to integrate real-time data pipelines for financial institutions, reducing loan approval time by **30%** and ensuring seamless functionality across services using **Postman** for testing
- Integrated **machine learning** models into the decisioning platform, enhancing predictive accuracy and risk management
- Conducted performance tuning and stress testing on the credit assessment pipeline, ensuring system reliability and scalability under high transaction loads
- Built and maintained **CI/CD** pipelines to streamline deployment processes, reducing manual intervention and improving code delivery speed by **20%**
- Worked closely with the **cross-functional teams** to translate business requirements into technical solutions, ensuring compliance with industry standards and regulations
- Tech Stack: **Java, Scala, Play Framework, Cassandra, JanusGraph, Gremlin, Postman**

RESEARCH INTERNSHIPS

Summer Research Intern, NEW YORK UNIVERSITY(NYU)   06/2022 – 07/2022

- Project Title: Additive Manufacturing **Cybersecurity**
- Topic: Direct Digital Manufacturing with 3D Printing: Designing for Security under Prof. Nikhil Gupta (NYU Tandon School of Engineering)
- **Secured/Encrypted** CAD files and addressed vulnerabilities in additive manufacturing to prevent cyber-attacks, participated in **Hack3D**

FREELANCING

Freelance Coder, OUTLIER AI   08/2023 – Present

- Evaluated **AI-generated code,** developed and managed the **SQL pipeline** for **Flamingo Coding's MultiTurn Deviations**
- Conducted performance evaluation of **AI**-generated code, providing feedback based on real-world use cases
- Analysed large **datasets** to extract actionable insights, enhancing the model accuracy of AI applications

TECHNICAL SKILLS

Languages and Frameworks: Java, Scala, Python, C++, C, Play Framework, .NET, HTML, CSS, JavaScript, TypeScript, ReactJS, NodeJS
Libraries: Gremlin, JanusGraph, MongoDB, MySQL, Cassandra, AWS SDK, Rekognition, SQS, Pandas, NumPy
Tools: Postman, Git, Docker, Kubernetes, CI/CD (Jenkins), Apache Tomcat, AWS (EC2, S3, SQS, Lambda), SQL Developer, Terraform, Maven

EDUCATION

BITS PILANI (Goa,India), B.E in Electronics and Instrumentation (with C.S Electives)   05/2019 – 05/2023
New Jersey Institute Of Technology (U.S.A), MS in Computer Science   08/2023 – Present

PROJECTS

Personalized Event Recommendation Engine (GitHub Link)

- Developed a **full-stack** event recommendation application using the **TicketMaster API** to suggest events based on user geolocation and preferences
- Implemented secure user authentication, designed an algorithm for personalized recommendations, and integrated geo-location features.
- Managed data with **MySQL** and **MongoDB** and created **RESTful APIs**
- Built a responsive UI and deployed the backend with **Java** on **Apache Tomcat**

AWS Image Recognition Pipeline (GitHub Link)

- Developed a cloud-native image recognition application using **AWS** services: **EC2, S3, SQS**, and **Rekognition**
- Achieved 100% accurate identification and extraction of cars and text from a dataset of **10** images with **80%**+ confidence threshold
- Implemented the solution using Java on **Amazon Linux VMs**, optimizing cloud resource usage

Sales Forecasting Model for Retail Analytics (GitHub Link)

- Developed and optimized a predictive model using **XGBoost** to forecast monthly sales across different shop sand product categories, improving model performance through hyperparameter tuning
- Processed large-scale sales data, performed feature engineering, and merged datasets for accurate prediction
- Implemented cross-validation and evaluated model performance using **RMSE** for reliable sales forecasts

LEADERSHIP EXPERIENCE

- Engagement Center Ambassador at NJIT: The Engagement Center, part of The Development and Alumni Relations, raises support from NJIT alumni, family, and friends. Responsibilities include using **communication skills** to secure contributions for NJIT's Annual Fund
- **Teaching Assistant/Tutor** for Educational Opportunity Program (EOP) at NJIT