

Vedant Rakesh Abrol

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PROFILE SUMMARY

Software Engineer, Full-Stack Developer, and Data Analyst with a Master's in **Computer Science**, specializing in **scalable APIs**, **distributed systems**, and **cloud-native applications**. Proficient in **C++**, **Python**, **Java**, and **R**, with expertise in **SQL**, **data processing**, and **ML model integration**. Experienced in **real-time systems**, **system optimization**, and delivering **data-driven insights**.

EDUCATION

BITS Pilani, Goa, India
B.E. (with **C.S Electives**)

May 2019 – May 2023

New Jersey Institute of Technology (NJIT), U.S.A
M.S. in Computer Science

Sep 2023 – May 2025

TECHNICAL EXPERIENCE

Software Engineer, SCIENAPTIC AI (New York)

Aug 2022 – Aug 2023

- Improved **processing efficiency** by **15%** by optimizing queries and restructuring back-end logic in **large-scale graph databases**, enhancing Scienaptic's AI-driven credit underwriting platform as an intern.
- Designed and deployed **scalable APIs**, reducing loan approval time by **30%**, and conducted rigorous testing using **Postman** to ensure seamless integration and functionality.
- Integrated **machine learning models** into the decisioning platform, enhancing **predictive accuracy** and improving risk management processes.
- Built and implemented **CI/CD pipelines** using Jenkins, streamlining deployments and reducing delivery time by **20%**.
- Collaborated with cross-functional teams to translate **business requirements** into **technical solutions**, ensuring alignment with organizational objectives.

Summer Research Intern, NEW YORK UNIVERSITY (NYU)

Jun 2022 – Jul 2022

- Developed **secure software solutions** for manufacturing systems, mitigating vulnerabilities and enhancing system resilience through robust coding practices.
- Participated in **Hack3D**, creating tools to address **cyber threats** while enhancing secure software workflows.

Freelance Coder, OUTLIER AI (Remote)

- Reviewed and optimized **AI-generated code** while managing **SQL pipelines** to improve performance and enhance Flamingo Coding's MultiTurn Deviation models.
- Conducted **performance evaluations** on large datasets, extracting actionable insights and 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, GitLab Actions, Apache Kafka
Databases: MySQL, MongoDB, Cassandra, JanusGraph, PostgreSQL, Redis

PROJECTS

Personalized Event Recommendation Engine ([GitHub Link](#))

- Designed a full-stack recommendation engine using the **TicketMaster API** to suggest events based on **geolocation** and **user preferences**.
- Implemented **secure user authentication** and developed **thread-safe APIs** to manage user relationships and preferences.
- Optimized **database interactions** with **MySQL** and **MongoDB**, and deployed the backend with **Java** on **Apache Tomcat**, ensuring high reliability and scalability.

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

- Built a **data processing pipeline** leveraging **AWS** services (S3, Lambda, Athena) for analyzing and visualizing POS receipt data with high reliability.
- Automated **cloud infrastructure** provisioning using **Terraform**, ensuring seamless data synchronization and querying.
- Developed **interactive dashboards** in **PowerBI** for real-time insights, enabling decision-making based on dynamic data visualizations.

AWS Image Recognition Pipeline ([GitHub Link](#))

- Designed a cloud-native application using **AWS** services (**EC2**, **S3**, **SQS**, **Rekognition**) for efficient image recognition.
- Ensured **high accuracy** (100%) for object identification and text extraction with **80%+** confidence thresholds, leveraging robust **data synchronization techniques**.
- Optimized resource utilization and implemented fault-tolerant pipelines using Java on **Amazon Linux VMs**.

Sales Forecasting Model for Retail Analytics ([GitHub Link](#))

- Built and optimized predictive models using **XGBoost** with **feature engineering** and **robust pipelines** to forecast monthly sales, ensuring data reliability and precision.
- Evaluated model performance using **RMSE metrics** and implemented **cross-validation** for consistent and reliable forecasts in business-critical applications.