

# Renadh Chowdhury

646-220-6996 | [andrevb46@gmail.com](mailto:andrevb46@gmail.com) | [renadh12.github.io](https://renadh12.github.io) | [github.com/renadh12](https://github.com/renadh12)

## INTRO

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A multi-faceted engineer with **7+ years** of professional experience, specializing in Machine Learning, Real-Time AI Platform & Cloud Engineering. Proven track record of managing and delivering impactful projects with end-to-end ownership across diverse technical domains. Adept at seamlessly transitioning between roles to meet evolving project demands.

## TECHNICAL SKILLS

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**Languages:** Python, Rust, Java, TypeScript, JavaScript, Groovy, SQL

**Frameworks:** FastAPI, Uvicorn, Node.js, Flask, Serverless, Google Cloud SDK

**Libraries:** kube-rs, tokio, k8s-openapi, PySpark, ONNX Runtime, gcloud, pandas, NumPy, Matplotlib, Serverless Offline

**Data:** Redis, Apache Kafka, Spark, Flink

**Cloud:** AWS (Lambda, S3, EKS), Azure (AKS, Key Vault, Managed Identities, HDInsight Kafka), GCP (GKE, Compute Engine, Service Accounts, Google Certificate Authority Service)

**Platform:** Kubernetes, cert-manager, HashiCorp Consul, Vault, Envoy, Docker, New Relic, Prometheus, Grafana

**Developer Tools:** Git, Packer, GitHub Actions, Jenkins, Lando, Ansible

## PROFESSIONAL EXPERIENCE

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**Staff Machine Learning Engineer, Real-Time Serving & Cloud AI Platform** Feb. 2024 – Present  
*Visa Inc.* *Austin, TX*

- Lead and execute end-to-end ML projects from conception to production across multi-cloud environments, managing/mentoring 15 engineers while hands-on architecting, developing, and optimizing ML systems, covering model onboarding, serving inference, feature engineering, benchmarking, infrastructure, network, CI/CD, security, and observability.
- Develop and scale high-performance ML serving platform using Python, Rust, FastAPI, and ONNX Runtime, deployed across AWS, Azure and GCP Kubernetes clusters, achieving 99.99% uptime with 2k TPS under 10ms latency (in GCP) while optimizing model execution thread management for improved resource utilization.
- Drive \$88K annual cloud savings through ML application & Kubernetes optimizations while supporting fraud detection systems generating \$723M revenue via real-time risk scoring.

**Senior Software Engineer** Sept 2022 – Feb 2024  
*Visa Inc.* *Austin, TX*

- Led the design and development of Java based Karate framework for real-time global API Validations in Production across 5 data centers for EMV 3DS Authentication flows, leveraging Kafka, HashiCorp Vault, Access Control Server.

**Software Engineer, Tools & Automation** Dec. 2020 – Sept. 2022  
*FOX Corp.* *New York, NY*

- Built event-driven CI/CD platform with AWS Lambda/SNS/SQS from local development to production, implementing TypeScript/Python microservices and Docker-based environments.

**Founding Partner, Lead Engineer+PMO** Feb. 2020 – Sept. 2022  
*Next Level Sports Management* *New York, NY*

- Co-founded and led end-to-end development of sports management platform, architecting responsive frontend and Player Database system using WordPress/JavaScript that serves 60+ athletes and partner universities globally.

**Software Engineer** Mar. 2019 – Aug. 2019  
*Red Ventures* *Austin, TX*

- Spearheaded end-to-end test automation for TPG US website (\$50M revenue, 10M monthly visitors) using JavaScript/Cypress/Selenium and New Relic Synthetics, reducing API validation time by 10% through automated monitoring and Slack alerting.

**Software Engineer** Aug. 2017 – Mar. 2019  
*Affinity Solutions Inc* *New York, NY*

- Developed Python based selenium test automation suite for financial loyalty program platform (\$2M revenue, 10M users), reducing reported bugs by 15% through robust end-to-end validation.

## PUBLIC PROJECTS

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- projectX - Data Engineering Project** | *Python, PySpark, Docker, Kubernetes, Azure* Dec 2023 – Dec 2023
- Developed and deployed ML regression pipeline using PySpark on Azure Kubernetes, implementing feature engineering and model evaluation with comprehensive metrics for customer bill prediction.
  - GitHub link - [github.com/renadh12/projectX](https://github.com/renadh12/projectX)
- Bank Loan Data Analysis & Visualization** | *Python, pandas, NumPy, Matplotlib* Oct 2019 – Dec 2019
- Analyzed 45,000+ bank accounts using Python data stack (NumPy, Pandas, Matplotlib) to deliver comprehensive financial data visualization and insights via Jupyter Notebooks.
  - GitHub link - [github.com/renadh12/Bank-Loan-Analysis](https://github.com/renadh12/Bank-Loan-Analysis)
- KubeRust - Rust based Kubernetes controller** | *kube-rs, k8s-openapi, tokio, kind, docker* Dec 2024 – Present
- Manages cluster node scaling based on simulated **pod utilization metrics**.*(in the works)*

## EDUCATION

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- Texas Tech University** Lubbock, TX  
*Bachelor of Science in Civil Engineering, 2015-2016*
- NYC Data Science Academy** New York, NY  
*Data Science with Python: Data Analysis and Visualization, 2019*