Aman Agrawal

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EDUCATION

- **Stony Brook University, New York** — Aug. 2023 – May 2025
  Master of Science in Computer Science — GPA: 3.9/4.0
  Coursework: Operating Systems, Database Management, Data Science Fundamentals, Analysis of Algorithms

- **University of Mumbai, India** — Aug. 2017 – Jun. 2021
  Bachelor of Engineering in Computer — GPA: 3.7/4.0
  Coursework: Object Oriented Programming, Distributed Systems, System Analysis and Design, Computer Architecture

PROGRAMMING SKILLS

Languages: Java, Python, Javascript, C++, SQL, Java, HTML, CSS, Shell Scripting, .NET
Databases: mySQL, PostgreSQL, MongoDB, ElasticSearch, Redis, Cassandra
Developer Tools: Git, AWS, Microsoft Azure, Google Cloud
Frameworks: Docker, Android, Flutter, Django, React, Node, Kafka, Kubernetes, Prometheus, Spark, SpringBoot

EXPERIENCE

- **WorkIndia** — Bengaluru, India
  Software Engineer — Jul 2020 - Jul 2023
  - **Project Management**: Managed the project to redesign the coupon engine through Scrum and Agile methodologies, achieving an increase in **month-over-month user retention from 8% to 19%**.
  - **User Segmentation**: Developed an internal segment service using Cassandra and SparkSQL to segment users based on activity and lifecycle to perform A/B testing for new features and marketing campaigns which reduced **experiment release development effort from 3 hours to 10 minutes**.
  - **User Experience**: Designed and added product flows and UI elements for a better user experience and retention by simplifying communication. This **reduced customer acquisition cost by 20% and increased revenue by 7%**
  - **Workflows**: Implemented document collection and identity verification workflows using REST APIs, ElasticSearch, Django, Postgres, ReactJS and OCR to **reduce account activation time from 5 hours to 3 hours**.
  - **Prod Environment**: Established Jenkins CI/CD pipelines for microservices deployment on Kubernetes, resulting in a **reduction in deployment time from 30 to 2 minutes**.
  - **Monitoring and Availability**: Configured Prometheus and Grafana based monitoring; accomplished 2000+ hours on-call shift in a year bringing **availability up from 86% to 98.6%**.

- **VPS Techub** — Mumbai, India
  Mobile Application Development Intern — Dec 2019 - Dec 2020
  - **Application Development**: Architected mobile application development for 4 projects using Android, Flutter, Django, Flask, NodeJS, and Postgres with **5k+ downloads on Google Play Store**. Used MVVM architecture and dependency injection.
  - **Project Management**: Led a team of 4 using agile from ideation to delivery while coordinating with the client.

PROJECTS

- **ReDOS**: Developed tools in collaboration with Prof. Dongyoon Lee to identify super-linear regex expressions, **preventing potential denial-of-service attacks** on servers affecting over 10,000 JavaScript and Python modules across diverse application domains.
- **Prometheus Backport**: Advanced accuracy of legacy systems by aligning recent django-prometheus advancements with older Django versions through methodical code adaptations and extensive compatibility testing, **ensuring precise metric tracking and analysis**.

AWARDS AND ACHIEVEMENTS

- Secured 2nd Runner-Up among 100+ teams at Amazon Hofstra University Capture the Flag.
- Published research on developing an interactive chatbot for stress relief using Deep Learning and Natural Language Processing (link)
- Secured 2nd Runner Up among 500+ teams in national level hackathon held at NIT Surat.
- Advanced to the semi-finals in the Texas Instruments Design Challenge by presenting a novel three-layered neural network for detecting drunk driving.