Saheb Singh Gandh

sahebsinghgandh@gmail.com | +1 (412)-320-9211 | Github | Linkedin | Portfolio

Highly Resourceful Software Engineer with ~5 years at Google, leveraging data-driven insights to architect and implement scalable, efficient algorithms. Proven track record of optimizing system performance, enhancing search accuracy, and driving ad revenue through innovative solutions. Expert in C++, Python, SQL, and cloud technologies, with a focus on applying cutting-edge machine learning techniques to solve complex business challenges.

SKILLS

Programming Languages: C++, Python, Java, TypeScript, SQL, Rust (learning)
Cloud & DevOps: Google Cloud Platform (BigTable, BigQuery, Cloud Run), AWS, Kubernetes, Docker, Git, GitHub Actions, Jenkins
Web Technologies: React.js, Next.js, Node.js, Express.js, RESTful APIs, GraphQL
Databases: PostgreSQL, Prisma ORM
Big Data & Analytics: Apache Kafka, Apache Beam, Pandas, NumPy
Machine Learning: TensorFlow, Keras, Scikit-learn, Hugging Face LLM integrations, PyTorch, Langchain
Project Management: Scrum, Figma, LucidChart, JIRA

EXPERIENCE

Google **Mountain View, CA**
Senior Engineer (Google Search / Books) Aug 2021 - April 2024

- Engineered a high-performance metadata clustering service, **reducing ingestion time by 86% (1 week to 1 day)** and enhancing **author metadata accuracy by 12%**, significantly improving search quality and user experience.
- Spearheaded the redesign of Google Books' partner selection algorithm, implementing an advanced neural network model that **optimized logistical efficiency and delivered $800K in annual cost savings.**
- Designed and **implemented a microservice** to monitor and report fluctuating copyright statuses, **reducing copyright non-compliance by 30%** and automating aspects of legal compliance for Google Research.
- Addressed an initial backlog of ~500 bugs by diagnosing and resolving metadata over or under clustering issues, improving the user experience and implementing a tweak in the clustering algorithm that **reduced future bug influx by 78%**.

Google **Boulder, CO**
Technical Solutions Manager (Google Ad Manager) Feb 2020 - Aug 2021

- **Led** the **North West American team**, **orchestrating critical process updates** and training that enhanced regional response times and service levels, **improving SLA performance by 23%**.
- **Enhanced campaign cost efficiency for Ad publishers** across Google Ad Manager, AdSense, and AdMob, maintaining robust conversion rates and reducing expenses by streamlining targeting strategies.
- Utilized **SQL and advanced analysis** to debug and manage advertising scenarios, **impacting revenue flows up to $1M+** and improving financial outcomes through precise data analysis.
- Served **as the key liaison for forecasting ad-serving features**, leading to the **development and execution of strategies** that **decreased** forecasting-related case volumes by **90% and reduced escalations** significantly for support teams.

Google **Boulder, CO**
Technical Solutions Consultant - Intern May 2019 - Aug 2019

- Designed and deployed a search tool using **Python, SQL, Google Cloud Run**, and **gRPC** that expedited retrieval of troubleshooting guides for vendor teams **bringing down their turnaround time (TAT) on publisher requests by 14%**, enhancing workflow efficiency.
- Volunteered to create an **NLP based problem solving dashboard** for **reducing** recurring client **issues by 25%**, and deliver insights on the most required features based on top customer pain points

Carnegie Mellon University **Pittsburgh, PA**
Research Assistant (Prof. Andre Jacquillat) Jan 2019 - May 2019

- Utilized **Python and machine learning libraries** to create **models predicting traffic patterns** from traffic cameras and GPS data, **enhancing real-time traffic management and urban flow**.
- **Analyzed extensive datasets using Python and SQL** to optimize public transportation routes, **integrating data from diverse sources such as weather reports and social media to improve traffic predictions**.
- **Partnered with Pittsburgh city transportation officials** to apply **AI solutions in traffic management**, leading trials catalyzing policy changes and significantly boosted urban transportation efficiency.

EDUCATION

Carnegie Mellon University Dec 2019
Master of Information Systems Management (10601 - Machine Learning, 90777 - Intermediate Statistics)

University of Mumbai May 2018
Bachelor of Engineering, Computer Science

COMMUNITY HONORS

Pill Mill Detector (Opioid Crisis Detector) (Python, sci-kit learn, clustering) July 2018

- **Won 'Most Optimized Solution' for** developing a **Python-based clustering algorithm** to **detect unusual opioid distributions** at **Code4PA hackathon 2018,** achieving **88% accuracy in identifying potential pill mill leakers**, **influencing** public **health strategies in Pennsylvania**.