

LAKSHAY VIRMANI

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EDUCATION

Carnegie Mellon University, College of Engineering

May 2023

Master of Science in Electrical and Computer Engineering | GPA: 4.0/4.0

Pittsburgh, PA, US

- Relevant Coursework: Cloud Computing, Distributed Systems, Autonomous Driving, Intro to Machine Learning, Intro to Deep Learning, Data, Inference and Applied ML, and Speech Recognition and Understanding.

University of Delhi, Netaji Subhas Institute of Technology

June 2018

Bachelor of Engineering in Information Technology | CGPA: 8.8/10.0 | First Class with Distinction

Delhi, India

- Relevant Coursework: Operating Systems, Design and Analysis of Algorithms, and System Analysis and Design.

EXPERIENCE

Voaige Inc.

May 2022 - August 2022

Computer Vision Research Intern

Pittsburgh, PA, US

- Led the system design of an AI operating system to enable seamless integration of various robot abilities based on specific project requirements.
- Composed and implemented an MLOps pipeline following industry best practices to test, deploy, manage, and monitor ML models for org-wide use.
- Mentored the perception team in the development and testing of various robotic grasping components for applications such as bin-picking and palletizing.
- Developed and applied self-supervised anomaly detection techniques for visual part inspection pipeline, leveraging zero-shot and few-shot regimes.

Khatabook

September 2019 - November 2021

Senior Software Development Engineer

Bengaluru, KA, IN

- Collaborated with cross-functional teams (Product, Marketing, and Operations) to build a highly reliable data platform, successfully scaling it from ingesting 100k to **100M** rows of data per day.
- Implemented a near-realtime replication pipeline using Debezium and AWS MSK, resulting in a highly effective fraud detection system and over **\$100k** monthly cost savings.
- Led the successful migration of the OLAP database from a traditional data warehouse to a modern data lake architecture, resulting in annual cost savings of over **\$250k** and a 30% reduction in average query execution time.
- Designed a centralized data repository utilizing AWS DocumentDB and AWS OpenSearch to create a comprehensive product catalog for multiple services on the platform, enhancing data reuse and reducing redundancy.
- Conducted data due diligence during Series B funding round, delivering key insights to investors and contributing to successful fundraising of over **\$60M**.

Amazon

June 2018 - August 2019

Software Development Engineer

Hyderabad, TS, IN

- Improved platform onboarding time by **85%** (from 4 hours to 35 minutes) by developing a feature that enables clients to set up their complete service infrastructure in a single click, resulting in a more efficient and streamlined process.
- Eliminated an annual operational burden of **800 man-hours** by refactoring the scaling automation workflow with fault-tolerant features such as service health checks and retry mechanisms.
- Designed both the frontend and backend of progress tracking features for automated workflows to improve customer visibility.

Software Development Engineer Intern

May 2017 - July 2017

- Received the Amazon Inventor's Award for developing and patenting a novel stream-based algorithm that resulted in a significant improvement of over **25%** in the runtime of AWS Elastic Map Reduce (EMR) service.

SKILLS

Programming languages: Java, Python, C++

Cloud providers: AWS, GCP, Azure

Web frameworks: Vert.x, Drogon, Jooby, Spring, Node.js

Database technologies: MySQL, Postgres, Oracle, Snowflake, Redshift, MongoDB, Apache Spark, Apache Cassandra, Neo4j, GraphQL

DevOps tools: Git, Jenkins, Docker, Kubernetes, Helm

Machine learning frameworks: PyTorch, TensorFlow, Keras

Others: Redis, Apache Airflow, Apache Kafka, Elasticsearch, Tableau, Neptune, Wandb.ai, Linux