Lakshay Virmani

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EDUCATION

Carnegie Mellon University, College of Engineering   **Jan 2022 - May 2023**

Master of Science in Electrical and Computer Engineering — GPA: 4.0/4.0   *Pittsburgh, PA, US*

- ○ Relevant Coursework: 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   **Aug 2014 - Jun 2018**

Bachelor of Engineering in Information Technology — CGPA: 8.8/10.0 — First Class with Distinction   *Delhi, India*

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

EXPERIENCE

Voaige Inc.   **May 2022 – Aug 2022**

Computer Vision Research Intern   *Pittsburgh, PA, US*

- ○ Researched and applied **self-supervised** anomaly detection techniques to help design and construct a visual part inspection pipeline under the zero-shot and few-shot regimes.
- ○ Guided the perception team to code and test different components of **robotic grasping** for applications like bin-picking and palletizing.
- ○ Composed and implemented an **MLOps pipeline** following industry best practices to test, deploy, manage, and monitor ML models for org-wide use.

Khatabook   **Sep 2019 – Nov 2021**

Senior Software Development Engineer   *Bengaluru, KA, IN*

- ○ Collaborated with Product, Marketing and Operations team to build a highly reliable data platform and scaled it from loading 100k to **100M** rows of data per day.
- ○ Implemented a data lake architecture resulting in annual savings of over **$250k** and a *30%* drop in average query execution time.
- ○ Organized a central data repository using *MongoDB* and *Elasticsearch* (AWS OpenSearch) containing a catalogue of products from all over India being reused by multiple services across the platform.
- ○ Led the data due diligence efforts during the Series B funding round, provided critical insights to the investors, and helped the firm raise over **$60M**.

Amazon   **Jun 2018 – Aug 2019**

Software Development Engineer   *Hyderabad, TS, IN*

- ○ Improved the platform onboarding time by **85%** (from *4 hours* to *35 minutes*) by developing a feature that enabled the clients to setup their complete service infrastructure in a single click.
- ○ Eliminated the operational burden of **800 man-hours/year** by refactoring the scaling automation to produce a fault-tolerant workflow equipped with service health checks and retry mechanisms.
- ○ Designed frontend and backend of progress tracking features for the automated workflows to provide better visibility to the customers.

Software Development Engineer Intern   **May 2017 – Jul 2017**

- ○ Received **Amazon Inventor's Award** for implementing and patenting a novel stream-based algorithm which improved the runtime of AWS Elastic Map Reduce service by over **25%**.

PROJECTS

Carnegie Mellon University   **May 2021 – May 2022**

Graduate Research Assistant | Advisor: Dr. Howie Choset   *Pittsburgh, PA, US*

- ○ Demonstrated the benefits of using attention based supervised learning to improve the efficacy of multi-agent path finding algorithms [video][arxiv].

Indraprastha Institute of Information Technology Delhi   **Aug 2017 – Mar 2018**

Undergraduate Research Intern | Advisor: Dr. A.V. Subramanyam   *Delhi, India*

- ○ Formulated an end-to-end model and evaluation metric for unsupervised image collection summarization. Work led to first author publication at BigMM 2019 where it won **Honourable Mention Award** [poster][ppt].

SKILLS

Programming Languages: Python, C++, Java, JavaScript, HTML, CSS, SQL
Frameworks: PyTorch, TensorFlow, Spring MVC, Node.js, jQuery
Tools: Apache Airflow, Apache Kafka, Snowflake, Tableau, AWS Elasticsearch, AWS EC2, AWS Redshift, Docker, Kubernetes, Git