Akash Mittal

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EDUCATION

UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN (UIUC)
Masters in Computer Science
Aug 2022 – May 2024 | IL, USA

INDIAN INSTITUTE OF TECHNOLOGY (IIT), DELHI
B.Tech in Computer Science
Aug 2015 – May 2019 | GPA: 9.2/10.0

- IITD Semester Merit Award for 3 semesters for academic excellence.

SKILLS

Programming:
Python• C • C++ • Android/Web Development • Spark • React • Django • GraphQL • Kotlin • Assembly • SQL • AWS • CI/CD

Project Experience
Big Data • Data Analysis • XAI • Information Retrieval • Recommender Systems • Computer Vision • Deep Learning on Graphs • On-device ML • Mobile Sensing • Social Network Analysis

COURSEWORK

ML/AI/DATA SCIENCE
Artificial Intelligence
Machine Learning
Information Retrieval
Data Mining
Introduction to Knowledge Graphs
Autonomous Vehicle Engineering

SYSTEMS/THEORY
ML for Large Scale DB Systems
Databases and Information Systems
Operating Systems
Parallel Computing
Analysis and Design of Algorithms
Networks
Digital Logic and System Design*
Computer Architecture*
Programming Languages
Smart Things

** **denotes** served as Teaching Assistant*

CONTACT

Github:// **akash17mittal**
LinkedIn:// **akashmittal1798**
Scholar:// **Akash Mittal**
Portfolio:// **akash-mittal**

EXPERIENCE

SAMSUNG RESEARCH | Software Engineer
Sep 2019 - Jun 2022 | Seoul, South Korea

Awards

- **Samsung S/W Development Award** for improving code review culture and code quality. Awarded to 10 developers in Samsung Research in a year.
- Won **2nd place** in Samsung Foldable App Hackathon for designing an innovative note taking application

Data Intelligence Team

- **AutoML Platform:** Optimized the ML model explainer microservice achieving 10X speedup improving the user experience significantly.
- **Big Data Healthcare Informatics:** Derived insights from 400 terabytes of Samsung Health log data using time series representation learning.
- **Recommender Systems:** Placed in top-10 teams in Korea in a music recommendation contest.

Deploy Team - Location based intelligent services

- Built and commercialized an **on-device machine learning** based indoor localization system using IMU sensors and WiFi signals.
- **Patented** the retail store mapping technology as a major contributor.
- Launched the **location-driven AR service** in a department store with an average DAU of 100 in the first week of the service launch.

SELECTED INTERNSHIPS & PROJECTS

NATIONAL UNIVERSITY OF SINGAPORE May '19 - Jun '19
Origin Destination (OD) matrix calculator for road networks
Built an end to end microservice for computing shortest paths for thousands of location pairs over complete Singapore road network. Achieved 20X speedup using novel heuristics and deployed it to production.

PURDUE UNIVERSITY May '17 - July '17
Automatic Gym Exercise Counting System
Developed a POC for deep learning based gym exercise (squats, pushups, etc.) counting system using surveillance cameras. Collected training data, trained DL models, and extended the system to multiple people present in gym.

INNAV - Indoor Navigation System May '16 - July '16
Designed and created an indoor navigation application for visually impaired people using audio based directions. Awarded **Design Innovation Award** by the Ministry of Human Resource Development (Government of India).

GCOMB: Learning Budget-constrained Combinatorial Algorithms over Billion-sized Graphs July '18 - May '19
Proposed a novel deep reinforcement learning based algorithm to solve combinatorial problems over large graphs. It is 100 times faster and marginally better in quality than SOTA algorithms. Work was published in **NeurIPS 2020.**

PUBLICATIONS

[1] S. Manchanda, A. MITTAL, A. Dhawan, S. Medya, S. Ranu, and A. Singh. Gcomb: Learning budget-constrained combinatorial algorithms over billion-sized graphs. *Advances in Neural Information Processing Systems*, 33, 2020.