

Mihir Kumar

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EDUCATION

Indian Institute of Technology, Delhi

IIT-Delhi | Jul 2016- July 2020

BTech. in Electrical (Power and Automation) Engineering

Coursework: Intro. To Computer Science, Data Structures and Algorithms, Signals and Systems, Computer Architecture, Digital Image Processing, Probability and Stochastic Probability, Embedded Systems

WORKEXPERIENCE

Blinkit | Data Engineer

Gurugram, IN | Sep 2020 – Sep 2021

- I developed and managed a robust data pipeline to cater to the data requirements of the entire marketing team, leveraging **Python** and **MySQL** within the **JupyterHub** environment. The pipeline efficiently updated the **Redash** database, enabling seamless data utilization.
- Demonstrated proficiency in creating and deploying multiple data dashboards on Redash, employing adept querying and data structuring techniques to visualize and present valuable insights effectively.

CITI CORP | Credit Risk Analyst, Software Intern

Mumbai, IN | May 2019 - July 2019

- I proficiently employed data analysis tools and programming languages to extract pertinent information, making significant contributions to the team's ongoing efforts in streamlining credit assessment processes effectively.
- I gained hands-on experience with technologies such as **Tectia** and **SAS**, further enhancing my skills in data processing and analysis within a professional software development environment.

PROJECTS

IMPLEMENTATION OF B-TREES

Java, Data Structures and Algorithms, B-Tree

The B-Tree effectively stores key-value pairs, accommodating duplicate keys, and supports data of any generic Object type in Java. The B-Tree's structure ensures sorting based on key values. The implementation encompasses crucial class functions, including seamless insertion of key-value pairs, efficient searching, and successful deletion of keys. This project deepened my understanding of B-Trees and honed my proficiency in Java programming, Data Structures, and Algorithms.

DATA DEDUPLICATION ON CLOUD STORAGE

Java, Cloud Computing, Chunking, Hashing, Data Deduplication

Developed a comprehensive solution for data deduplication in cloud storage, utilizing Java programming language and advanced cloud computing techniques. Implemented a range of chunking and storage algorithms including probabilistic extreme binning algorithms, fixed length chunking, variable length chunking. Additionally, I seamlessly integrated algorithms like Rabin-Karp rolling hash and bipartite graph to optimize the deduplication process.

VESSEL SEGMENTATION USING MORPHOLOGY

Python, Digital Image Processing, Morphological Operations

I successfully implemented a vessel segmentation pipeline in Python for analysing retina maps. The project aimed to identify and map the vessels of the eye while removing optic disks. To achieve this, I applied morphological operations to smooth the veins, examined the contours, and employed relevant conditions for accurate selection. I Implemented operations that filtered out any patches or non-vein patterns, ensuring the reliability of the segmentation process.

SOLVING 8-PUZZLE GAME

Java, Dijkstra's Algorithm, Graph Traversal

To achieve this, I conceptualized a graph-based approach, where the possible states of the puzzle were treated as nodes, and the valid moves as edges, effectively representing the puzzle as a graph. I then employed Dijkstra's Algorithm for efficient graph traversal to find the optimal path from a given random start state to an assigned random end state.

SKILLS & ACHIEVEMENTS

Programming Languages: Java, C++, Python, SQL, SAS

Technology: AWS, Eclipse, Arduino, Autodesk, Tina TI, SAS EG, Tectia

All India Rank: Obtained a **rank of 776** out of 1.5 million students across India in **JEE (advanced)** over a 2-tier testing process.

SOCIAL VOLUNTEER:

HELPAge INDIA | Volunteer

Delhi- NCR, IN | Nov - 2019 - Dec 2019

- Helped abandoned old people without access to medical care in rural regions of the country through Mobile Health Units (MHUs) by providing medical care to their door step. Helped with the record keeping and management here.
- Managed helpdesk of HelpAge India at AIIMS, India's largest hospital by helping out old people with management, documentation, registration, directions, and movement through the whole premises.