DHAIRYA DUTT

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Education

Rochester Institute of Technology

Master of Science in Information Technology and Analytics CGPA:4.0   *Expected Graduation: May 2025*

- **Relevant Coursework:** Data Structures and Algorithms, Relational Databases, Statistical Learning, Natural Language Processing (NLP), NoSQL, Data Analytics, Data Science.
- **Teaching Assistant:** Web Server and Admin - Linux, Load Balancing, Scalability.

Nirma University

Bachelor of Technology in Electronics and Communication with a Minor in CS   June 2023

- **Relevant Coursework:** Machine Learning, Operating Systems, REST API, Database Management Systems, Object Oriented Programming (OOPs), Web Development.

Technical Skills

Languages: C++, SQL, Java, Python, JavaScript, Typescript
Developer Tools: Visual Studio, Figma
Web Development: HTML/CSS, React
Distributed Systems: Scalable architectures, indexing, pagination, BigQuery, real-time data querying
Cloud and Devops: GCP, GitHub, AWS, Docker, BigQuery, Looker Studio
Databases: MySQL, PostgreSQL, MongoDB, Firebase, Neo4j

Projects

Employee Management System | BST, OOPs, C++   December 2024

- Engineered a C++-based employee management system using object-oriented design principles (encapsulation, inheritance, modularity) to manage hierarchical data structures for 50+ users.
- Implemented scalable features for dynamic employee onboarding, role-based project access, and administrative control, simulating a multi-tiered architecture in a distributed system context.

Recipe Generator | Python, Inverted Index   September 2024

- Accomplished efficient recipe search and retrieval as measured by building an inverted index from 2.2 million recipes by using Python and tokenization on Jamie Oliver's cooking website.
- Applied TF-IDF Vectorizer and cosine similarity on the data structure to extract features and show top 5 matched results with an accuracy of 85%.

Stock Market Prediction using LSTM | LSTM   April 2024

- Accomplished a 7% improvement in model accuracy as measured by optimizing the LSTM model by fine-tuning epochs and the optimizer.
- Compared 3 machine learning algorithms alongside LSTM to predict the price based on RMSE value.

Chicago Crime Project | Big Query, Looker Studio   April 2024

- Accomplished selection of 5 optimal wards as measured by meeting predefined investment criteria by doing querying and filtering data using BigQuery.
- Accomplished effective real estate insights as measured by clear visual comparisons of selected wards by creating interactive dashboards in Looker Studio.

Work Experience

Software Engineer Intern | Reactjs, Firebase   January 2023 – May 2023
D360   *New York, United States*

- Applied indexing and pagination to scale rendering on distributed React-based app (1M+ records), improving performance by 65% while developing a React app from scratch in 3 months.
- Enhanced website functionality as measured by seamless integration of a map container and announcement section by updating and optimizing the firm's website.

Software Engineer Intern | Python, SMTP   June 2022 – August 2022
eInfochips   *Gujarat, India*

- Automated the email-sending functionality to employees, which reduced 25+ hours per month and manual repetitive work of the employers.
- Built a GUI for the email-sending feature, now used by over 200+ faculties.

Software Engineer Intern | HTML, CSS, Javascript   March 2021 – August 2021
TechTable   *IIT Madras, India*

- Made 5 front-end pages on a professional website for a client and satisfying the client's need called "Teenr".
- Contributed to the "My team" section of the firm's official website, consisting of 20+ team members using CSS styling.