

DHRUV RAO

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EDUCATION

University of Connecticut

Master of Science in Computer Science and Engineering

Storrs, CT, USA

May 2024

Visvesvaraya Technological University

Bachelor of Engineering in Computer Science and Engineering

Bengaluru, India

August 2021

TECHNICAL SKILLS

Programming Languages

Python, JavaScript, Java, R, MS SQL, C++, PHP, HTML/CSS, Assembly

Methodologies

Agile, Scrum, Waterfall, SDLC

Frameworks

React, Django, Flask, NodeJS, Tailwind CSS, Fast API, GraphQL

Databases

Postgres, SQL Server, Snowflake, MongoDB, Oracle, Cassandra

Libraries

Open CV, TensorFlow, scikit-learn, Keras, NumPy, Pandas, Matplotlib

Tools

Jira, Git, WordPress, POSTMAN, GitHub, Tableau, Alteryx, Power BI, MS-Excel

WORK EXPERIENCE

Researcher

Jan 2024 - May 2024

Applied Algorithms Lab

Storrs, CT

- Collaborated with UConn School of Computing's Director and US Census Bureau to Develop an advanced spatial query algorithm, alias radius query, in Python & C++. Enhanced efficiency and accuracy with modified closest pair techniques, benefiting decision-making and workflows for government agencies, and private enterprises.
- Achieved a 97% accuracy rate in high-dimensional data analysis, benchmarking its performance against the E2LSH algorithm by Piotr Indyk, highlighting its superior computational precision in real-world applications.

Graduate Assistant

Jan 2023 - May 2024

University of Connecticut

Storrs, CT

- Worked as a graduate assistant for the Intro to Computer Architecture course at UConn College of Engineering under Prof. Caiwan Ding & Zhijie Jerry Shi, handling all assistant duties for a class of over 180 students.
- Led two weekly lab sessions on low-level programming with RARS and hardware implementation using Python, conducted bi-weekly office hours for student support, provided feedback to over 80+ students, and also engaged in grading. Managed test case creation and lab configuration using Auto Grader.

Business Development Intern

Jan 2022

Tech Sells

Mumbai, India

- Implemented shell & batch scripts to automate routine operational tasks, resulting in a 30% increase in efficiency.
- Managed Postgres-based client and candidate tracking systems for accurate data management, utilizing Tableau for enhanced reporting and analysis, while demonstrating agility by using Trello in addressing business needs.

Web Developer Intern

Mar 2021 - Apr 2021

Zerozilla Infotech Pvt. Ltd.

Bengaluru, India

- Worked on developing the real estate price forecasting and SOS features integrating Agile management practices with Git and JIRA to streamline workflows, and increase productivity by 60%.
- Conducted API profiling to identify bottlenecks causing high latency, optimizing performance through cached queries and database indexing. Created a location-tracking service in JavaScript and Python, achieving a 20% reduction in API latency to make informed decisions promptly.
- Deployed a JavaScript tool for automated client email reports, enhancing task visualization by nearly 25%.

- Collaborated with a team of people and contributed to creating the company's official website using the SDLC Model enhancing their online presence involved in both front-end and backend development and deployment.
- Utilized SQL for executing database queries, resulting in a significant 20% improvement in data retrieval efficiency by fine-tuning the database configuration and updating the MySQL datasheet, projecting it onto the website.
- Tailored a user-friendly interface with an optimized checkout page and introduced components that refined functionality, facilitating A/B testing also enhancing capabilities that improved system downtime by 33%.

PROJECTS

Spotify Music Recommendation System. Created a music recommendation system through correlations in Python, analyzing over 40M+ rows of data comprising 17K songs & 500K user behaviors. Cleaned and processed data to ensure accuracy. Applied personalized recommendations to significantly enhance user experience and engagement.

Walmart Sales Forecasting. Utilized ARIMA and ARIMAX models to forecast weekly sales and interpret seasonal trends across 45 Walmart stores in the US. Analyzed 10 years of data to recommend department-specific product availability, enhanced with NLP insights, and visualized in Tableau for decision-makers.

Loan Approval Analysis. Defined essential KPIs, including monitoring credit score trends and visualizing customer segmentation through Power BI to drive data-driven improvements. Developed intermediate tables to facilitate ad-hoc analysis with scalable capabilities, enabling to query the historical data based on a unique identifier.

Bitcoin Price Prediction. Programmed data extraction and analysis of five years of historical Bitcoin data via the TwelveData API, implementing data merge, purge, and hygiene processes to ensure quality and consistency. Trained LSTM neural network model and achieved a notable 78% accuracy rate in predicting cryptocurrency market trends.

PUBLICATION

- **Detection of COVID-19 Infection from Chest X-Ray Images using CNN:** Published a paper after peer review at the CiiT International Journal of Digital Image Processing sponsored 7th National Conference on Advancement in Information Technology (NCAIT), Bengaluru. (March 2021) [View Publication](#)