

Dhruv Rao

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EDUCATION

University of Connecticut

Storrs, CT, USA

UConn School of Engineering; GPA: 3.24/4.00

May 2024

Master of Science (M.S.) in Computer Science and Engineering

Coursework: Data Mining, Big Data Analytics, Intro to Machine Learning, Computer Networks, Algorithms Research, Modern Cryptography: Foundation, and Blockchain Technology.

Visvesvaraya Technological University

Bengaluru, KA, India

SJB Institute of Technology; GPA: 7.97/10.00 (**First Class with Distinction**)

August 2021

Bachelor of Engineering (B.E.) in Computer Science and Engineering

Coursework: Operating System, Database Management System, Computer Network, Machine Learning, Design and Analysis of Algorithm, , and Data Structure & Application.

TECHNICAL SKILLS

Programming Languages	: Python, JavaScript, SQL, C/C++, Java, C#, PHP, R, HTML, Assembly
Libraries	: NumPy, Pandas, Seaborn, Open CV, TensorFlow, scikit-learn, NLTK, Keras, Matplotlib
Framework	: React, Django, Flask, Bootstrap, NodeJS, Tailwind CSS, Fast API
Tools	: Jira, Git, WordPress, POSTMAN, GitHub, Tableau, Power BI, Figma, Canvas, MS-Excel
Databases	: SQL Server, Postgres, Snowflake, Oracle, MongoDB
Methodologies	: Agile, Scrum, Waterfall, SDLC
Operating System	: Windows, macOS, Linux – Kali, Ubuntu

WORK EXPERIENCE

Graduate Assistant – Intro to Computer Architecture

January 2023 – May 2024

UConn School of Engineering

Storrs, CT, USA

- Worked as graduate assistant at the UConn School of Engineering under Professor Zhijie Jerry Shi and Caiwan Ding performing all assistant duties with a class size of 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.
- Responsible for managing an autograder system, including creating test cases and configuring lab programs.

Tech Sells

January 2022

Intern (Remote)

Mumbai, Maharashtra, India

- Developed and implemented shell and batch scripts to automate routine operational tasks, resulting in a 30% increase in efficiency.
- Managed client and candidate tracking systems with PostgreSQL backend for accurate data management and used Power BI for enhanced reporting and analysis.

ZeroZilla Infotech Pvt. Ltd.

March 2021 – April 2021

Web Developer Intern (On-Site)

Bengaluru, Karnataka, 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.
- Deployed a JavaScript tool for automated client email reports, enhancing task visualization by nearly 25% and latency by 40%.

- Collaborated with a team of people and contributed in creating the company's official website using the SDLC Model enhancing their online presence involved in both front-end and back-end development and deployment.
- Utilized SQL for executing database queries, resulting in a significant 30% improvement in data retrieval efficiency by fine-tuning the database configuration and updated the data in a MySQL datasheet, and projected in 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%.

ACADEMIC PROJECT EXPERIENCE

- **Record-Linkage Algorithm | Python - NumPy, Pandas, Matplotlib**

Spearheaded the development of an advanced spatial-query algorithm by modifying the closest pair problem under the guidance of the Director of School of Computing in collaboration with US Census Bureau. The algorithm outperformed traditional methods, achieving 100% accuracy in high-dimensional data analysis, with comparative evaluations using E2LSH.

- **Bitcoin Price Prediction | Python - LSTM (RNN), NumPy, Pandas, JSON**

Built an application by programmatically extracting and analyzing five years of historical Bitcoin data leveraging the TwelveData API, and preprocessed it for quality and consistency. Trained LSTM neural network model to make informed decisions achieving a remarkable 78% accuracy rate in the crypto market.

- **Loan Approval Prediction Analysis | Python, Power-BI, SQL**

Developed a predictive model to forecast loan approval, achieving an accuracy of 88%. Identified crucial KPIs such as credit score trends and debt-to-income ratios to optimize lending decisions. Designed a Power BI dashboard to visualize insights on customer segmentation enabling data-driven recommendations for operational efficiency.

- **Spotify Music Recommendation System | Python – NumPy, Pandas, Scikit-Learn, Matplotlib, Seaborn**

Designed a music recommendation system within Spotify through correlations in Python by dealing with over 40M+ rows accounting for over 17K music and 500K customers data to recommend best music to users based on self & others behavior.

- **CovidFinder | Python - TensorFlow, Flask, Keras, CNN**

Engineered a rapid COVID-19 detector using Flask as a backend by employing an extensive dataset of sample images to train a Convolutional Neural Network. The system achieved an accuracy rate of 93% and was validated across 10,000 sample images. Integrated real-time global statistics for all types of cases reported.

- **Bank Management System | JavaScript, MySQL, HTML, CSS, PHP**

Build software for paperless account opening into the bank and tracking the transaction as well as sending a monthly account statement to the customer e-mail address. It is a centralized banking app to track all user accounts with a National ID or Unique ID.

HONOR & ACHIEVEMENTS

- Developed a notable mini-game at the HaXploit a 24-Hour Hackathon, earning recognition from board members.
- Presented an augmented reality virtual clothing try-on system to potential investors, securing their endorsement.
- Won CS department's top spot, earning VTU Financial Assistance for innovative projects due to ongoing reliability.
- Led three projects and authored a paper post peer review in CiiT International Journal of Digital Image Processing.
- Certified in C-Programming (Udemy) and Cyber-Security (Ethnotech Solutions), showcasing technical proficiency.
- Internshala Student Partner (ISP) 27: Organized seminars, boosted visibility, and enhanced student engagement.

SOFT SKILLS

Analytical Thinking, Problem-Solving, Communication, Teamwork, Critical Thinking, Data Visualization, Leadership, Creativity, Public Speaking, Risk and Time Management.