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Viraj Suresh Dalsania

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ABOUT ME

Computer Science Master's student at Technische Universität Dresden with strong interest in Data Science and AI/ML applications. A tech enthusiast with a passion for exploring emerging technologies, aiming to deepen my analytical and technical expertise while contributing to research and innovation.

WORK EXPERIENCE

IIH Global https://www.iihglobal.com/

City: Ahmedabad | **Country:** India | **Email address:** info@iihglobal.com | **Name of unit or department:** Full Stack Web Development | **Business or sector:** Information and communication

[27/05/2024 – 07/07/2024] **Full Stack Web Developer (Intern)**

- Practiced frontend and backend development with the help of various mini projects including a quiz app and some mini games.
- Developed an Employee Management system from scratch using MySQL, Express.js, React.js, redux toolkit and Node.js.
- Connected the system with database for real time operations on data and added security features like password encryption and user authorization.

EDUCATION AND TRAINING

[Current] **Master of Science (Computer Science)**

Technische Universität Dresden https://tu-dresden.de/

City: Dresden | **Country:** Germany |

[09/2021 – 05/2025] **Bachelor of Technology (Information and Communication Technology)**

Pandit Deendayal Energy University, Gandhinagar https://pdeu.ac.in/

Address: Knowledge Corridor, Raysan, PDPU Rd, 382007, Gandhinagar, India | **Field(s) of study:** Information and Communication Technologies | **Final grade:** 9.69 CGPA | **Thesis:** Implementation of a LightGBM based Long-Short Trading Strategy for Indian Stocks

[04/2019 – 03/2021] **Higher Secondary School (Science Stream) (CBSE board)**

Puna International School http://punainternationalschool.com/

Address: Shree swaminarayan Gurukul, Chandkheda - Zundal Rd, Chandkheda, Zundal, 382424, Ahmedabad, India | **Field(s) of study:** Mathematics ; Physics ; Chemistry | **Final grade:** 79%

[04/2015 – 03/2019] **Secondary School (CBSE board)**

Kokilaben Dhirubhai Ambani Reliance Foundation School https://www.rfs.edu.in/jamnagar/

Address: Sector XI, Reliance Greens, Motikhavdi, 361142, Jamnagar, India | | **Final grade:** 90.6%

LANGUAGE SKILLS

Mother tongue(s): Gujarati

Other language(s):

English

LISTENING C2 **READING** C2 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

German

LISTENING B1 **READING** B1 **WRITING** B1

SPOKEN PRODUCTION B1 **SPOKEN INTERACTION** B1

Hindi

LISTENING C2 **READING** C2 **WRITING** C1

SPOKEN PRODUCTION C2 **SPOKEN INTERACTION** C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Technical Skills

Python | Machine Learning, NLP | Fundamental of Artificial Intelligence | Python DSci/ML Libraries (Numpy, Pandas, Sklearn, Scipy) | Pytorch,Tensorflow | DSA(Data Structure and Algorithms) | Databases (SQL, No SQL) | Full stack web development | Web Design & Web Development | Javascript(Nodejs, ExpressJs) | Cloud Computing (AWS) | data analysis | Microsoft Office (Outlook, Excel, Word, PowerPoint) | GIT Hub | AI | AI Automation | MS Excel | Power BI

Soft Skills

Good Communication and Writing Skills | Problem analysis & Problem Solving | Teamwork & collaboration | Adaptibility

PROJECTS

[01/01/2025 – 20/05/2025] **Implementation of a LightGBM based Long-Short Trading Strategy for Indian Stocks**

Designed and implemented a complete machine learning pipeline for a long-short trading strategy on Indian equities. This involved automated data acquisition, extensive feature engineering to capture diverse market dynamics, and the development of predictive models using gradient boosting techniques for both classification and regression tasks. The system included robust hyperparameter optimization, rigorous time-series backtesting, and a final stage of simulated live trading to validate practical performance and signal generation capabilities.

[09/2024 – 12/2024] **Analysing the Impact of Russia-Ukraine War on Oil Prices using NLP and Machine Learning Techniques**

Developed a predictive analysis model to examine the impact of news sentiment on oil prices during geopolitical tensions. Collected and integrated news data with historical Brent oil prices, then performed sentiment analysis to extract geopolitical sentiment scores. Built and trained an LSTM model for time-series forecasting, achieving high accuracy and identifying sentiment-price correlations. Visualized actual vs. predicted prices to provide key insights into market trends.

[08/2024 – 12/2024] **Anomaly Detection in Smart Homes Using Autoencoders, Random Forest, and XAI**

Developed a system to detect and explain anomalies in IoT sensor data using Autoencoders for feature extraction and Random Forest for classification. Processed sensor data and handled missing values for robust inputs. Applied LIME for interpretability and conducted feature importance analysis, identifying key factors like humidity and temperature. Validated against ensemble models, demonstrating superior efficiency and real-world applicability.

[05/2024 – 07/2024] **Employee Management System**

Built a full-stack web application for employee management with a React.js and Redux Toolkit frontend for seamless state management. Developed a Node.js and Express.js backend to handle API requests and integrated MySQL for secure data storage. Implemented JWT based authentication and enhanced UI/UX with Material-UI, ensuring a modern and user-friendly interface.

CERTIFICATION

[07/2025 – 09/2025] **Databases and SQL for Data Science with Python**

Gained hands-on experience querying and managing relational databases using SQL and Python within Jupyter Notebooks. Built complex queries using joins, views, stored procedures, and transactions for real-world data analysis.

Link: https://www.coursera.org/account/accomplishments/records/922YLMWHI5NM

[02/2025 – 04/2025] **Python for Data Science, AI & Development**

Completed a comprehensive Python course focused on data structures, OOP, file handling, and core programming principles using Jupyter Notebooks. Gained hands-on experience with Pandas, NumPy, REST APIs, and web scraping for data analysis and automation.

Link: https://coursera.org/share/cde3506b53f8f32fd041e87933579cc3

[12/2024 – 02/2025] **Data Science Methodology (IBM)**

Learned and applied foundational data science methodologies to solve real-world problems. Gained hands-on experience in problem formulation, data preparation, model deployment, and iterative feedback using Jupyter Notebook and Python.

[05/2024 – 07/2024] **Intern Web Developer (Summer Internship)**

Completed a six-week internship focusing on full stack development using ReactJS, Redux Toolkit, Node.js, Express.js, and MySQL. Gained hands-on experience in building dynamic UI, integrating backend systems, and implementing secure authentication with JWT.

[04/2024 – 07/2024] **Ultimate AWS Certified Cloud Practitioner CLF-C02 (Udemy)**

Gained foundational knowledge of AWS services, architecture, and best practices. Developed hands-on experience with cloud computing concepts and AWS management.

Link: https://www.udemy.com/certificate/UC-3949a0db-878d-4441-9cd5-c845ca80cfe4/

[01/2024 – 04/2024] **Privacy and security in online social media (NPTEL)**

Studied data collection, trust, credibility, and security challenges in online social networks. Gained insights into phishing, fraud detection, and privacy risks while analyzing social media data using APIs and research methodologies.

Link: https://archive.nptel.ac.in/content/noc/NOC24/SEM1/Ecertificates/106/noc24-cs04/Course/NPTEL24CS04S115050014630795997.pdf

[08/2023 – 11/2023] **HTML, CSS, and Javascript for Web Developers (Coursera)**

Gained experience in creating modern, mobile-friendly designs that adapt seamlessly across different screen sizes using HTML, CSS, and JavaScript

Link: https://coursera.org/share/6c042477162836ad745b2cf4869ffaa7