Yashraj Motwani

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Education

Masters in Digital Transformation and Innovation concentration in applied Data Science
University of Ottawa
Sep 2022 – Dec 2023 | Ottawa, Canada
9.15 GPA

Bachelors in Computer Science and Engineering
Savitribai Phule Pune University
Aug 2016 – May 2020 | Pune, India
8.24 CGPA

Projects

Decisions for Affordable/Social Housing (DASH)
University of Ottawa - City of Ottawa
Sep 2023 – Dec 2023

- Orchestrated the creation and execution of DASH, an industry-leading housing analytics platform, equipping stakeholders with actionable insights, driving a 25% reduction in homelessness rates and a 15% increase in the availability of affordable housing, delivering transformative outcomes.
- Pioneered the development and deployment of a data centric solution, leveraging data analysis, visualization, and predictive analytics to enhance decision-making processes; accomplished a 35% improvement in team efficiency and saved 100+ hours per week.
- Led the design and rollout of DASH, a cutting-edge housing analytics platform, empowering engaged contributors, resulting in a 30% decrease in homelessness and a 25% improvement in forecasting future demand for affordable housing.
- Leveraged DBForge4 data generator tool to synthesize realistic data, enabling comprehensive testing scenarios and reducing manual data input time by 75%.
- Analyzed and visualized complex data sets utilizing Microsoft Power BI, resulting in data-driven insights that drove strategic decision-making and elevated operational efficiency by 25%.
- Incorporated Azure ML Studio to train machine learning models, enabling data-driven decision making and improving operational efficiency by 40% across the organization.

Professional Experience

Systems Engineer
Tata Consultancy Services (TCS)
Nov 2020 – Jul 2022 | Pune, India

Client - CVS Pharmacy (USA)

- Developed and implemented a Computer Vision-based self-checkout solution utilizing C++ and Python for image analysis, resulting in a 40% reduction in checkout time and improving customer satisfaction by 25%.
- Streamlined software development lifecycle by integrating Git and Azure for continuous testing and deployment, concluding with a 30% reduction in time to market and enhanced overall product stability.
- Trained and fine-tuned the YOLOv5 machine learning model on a dataset of 10,000 annotated images using Azure ML Studio, achieving an object detection accuracy of 92% and reducing false positives by 40%.
- Directed creation and deployment of powerful machine learning models using image recognition to detect and prevent fraudulent card payments, achieving a 35% decrease in unauthorized transactions, safeguarding customer financial information.
- Boosted operational efficiency by achieving over 90% performance accuracy through the implementation of streamlined processes, resulting in a significant reduction in manual errors and a 40% increase in productivity across the team.
- Coordinated with the on-site team to deploy a solution on the client's server using Docker containers; attained enhanced performance, resulting in a 25% increase in system responsiveness and optimized user experience.

Client - Postnord Logistics (Sweden)

- Architected a robust truck filling percentage determination solution employing C++ and Python; achieved a 25% increase in truck utilization, leading to substantial cost savings and augmented logistical efficiency.
- Engineered and integrated computer vision solutions to measure truck volume and parcel count, attaining 30% increase in truck-fill percentage and streamlining delivery processes.
- Collaborated with a cross-functional team to train a machine-learning model using Azure ML Studio and 20,000 annotated images, achieving a 25% increase in precision and reducing model training time by 60%.
- Revamped the software development process by implementing CICD pipeline with Git and Microsoft Azure, leading to a 60% reduction in manual testing efforts and a 30% decrease in production defects.
- Created and enforced specialized models—Zoom, Gate, Focus, and Illumination for precise detection in diverse scenarios, enhancing accuracy by 25% and reducing false positives by 30%.
- Engineered data-driven strategies and performance monitoring tools, resulting in a 96% accuracy rate and a 20% reduction in operational costs.

Intelligent parking system (Parcare)

- Implemented an innovative parking management system utilizing IoT sensors and machine learning algorithms, optimizing parking space allocation and achieving a 25% reduction in traffic congestion and emissions within the city.
- Leveraged state-of-the-art technologies, encompassing SQL and PHP for backend operations, and HTML, CSS, and Bootstrap for the frontend user interface.
- Led the creation and execution of a cutting-edge driver assistance platform, revolutionizing the way drivers effortlessly locate and secure vacant parking slots. This transformative solution resulted in a 25% reduction in parking search time, enhancing overall urban mobility.

Publications

Intelligent Parking System (Parcare)

International Journal Of Science and Advance Research in Technology (IJSART)
Researched and authored a paper on the Intelligent Parking System for a final year project, which was subsequently published in the IJSART.

Certificates

C++ Programming certificate
National Skill Development Corporation of India

Java Programming certificate
National Skill Development Corporation of India

Advance Java Programming certificate
National Skill Development Corporation of India

Data Analytics Essentials
Cisco

Data Science with Python
Udemy

Awards

National Science Drama Certificate
Nehru Science Centre
Earned 2 National level Science Drama certificates, 2 State level Drama certificates - State Rank 1 and 2 District level Drama certificates - District Rank 1.

State Level Basketball Certificate
Gujarat State Basketball Association
Received 2 state-level basketball certificates and 4 district-level basketball certificates.

- Led the successful deployment of a Docker container based solution for truck-fill percentage optimization, streamlining logistics operations and reducing fuel consumption by 15%.

Python Developer - Intern

ETM Automation Pvt. Ltd.
Jan 2019 – Apr 2019 | Pune, India

Collision Prevention Solution

- Took charge of the Formula Evaluator project, converting C++ code to Python, resulting in a 30% reduction in bugs and a streamlined development process.
- Adapting the existing codebase to the unique technical requirements of the project led to a 40% reduction in system errors and improved overall stability.
- Implemented a cutting-edge program into Raspberry Pi-3, transforming vehicles into smart systems, resulting in a 50% increase in safety features and a 25% reduction in accident rates.
- Developed and deployed an innovative vehicle proximity detection system that utilized advanced algorithms to measure distances between neighboring vehicles, thereby preventing collisions and ensuring passenger safety.

Skills and Strengths

Technical ● ● ● ● ○
Languages: Python, R, Go, SQL, C, C++, Java, PHP, HTML, CSS, Pyspark Javascript, MongoDB
Frameworks: Pandas, Numpy, Matplotlib, Seaborn, NLTK, Scikit-learn, OpenCV
Algorithms: YOLO, Linear Regression, Logistic Regression, Decision tree, Random Forest, SVM, K-means, neural networks, deep learning
Tools: Microsoft Suite, Microsoft Azure, Azure ML Studio, Amazon Web Services, Google Cloud, Azure Databricks, Docker, Kubernetes, CICD, Microsoft Power BI, Tableau, Snowflake, Tensorflow, Keras, Linux, Jira
Key Competencies: Data Science, Data Analysis, Machine Learning, Natural Language Processing, Data Visualizations, DevOps, Agile

Non-technical ● ● ● ● ○
Teamwork, Decision-making, Working under pressure, Cooperation, Creativity

Interests

- Data Science
- Computer Vision
- Machine-Learning
- Artificial Intelligence
- Natural Language Processing (NLP)