

SUVRAT JAIN

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EDUCATION

Rochester Institute of Technology
M.Sc. in Data Science GPA: 3.8/4

Rochester, NY
2021 - 2023

Manipal Academy of Higher Education GPA: 8.6/10
B.Tech in Electronics and Communication Engineering

Dubai, United Arab Emirates
September 2017 - July 2019

WORK EXPERIENCE

Golisano Institute for Sustainability, RIT

Rochester, NY, United States

Data Science Engineer

June 2023 – Present

- Implemented UNet architectures for semantic segmentation of high-value clothing materials, achieving an Intersection over Union (IoU) score ~ 0.85.
- Enhanced the performance of the semantic segmentation model by incorporating data augmentation techniques, resulting in a 10% improvement in IoU score, demonstrating experience in improving data quality.
- Leveraged Python to generate augmented data by extracting object contours and backgrounds, resulting in a 30% increase in dataset size and boosting model accuracy by 12% through enhanced generalization.
- Utilized neural network gradients to quantify feature relevance in image classification and object detection algorithms, revealing insights into model interpretability and guiding feature selection for enhanced performance.
- Integrated YOLO v8 into the pipeline to improve object detection accuracy by 15%, resulting in more precise object identification and optimized downstream processes.
- Deployed YOLO v8 for real-time object detection in the pipeline, achieving an average processing speed of 25 frames per second and ensuring accurate live detection with minimal latency, using GPU.

Data Scientist

May 2022 – May 2023

- Built accurate CNN models for automobile part categorization using PyTorch and OpenCV. Rigorously trained the models with a massive training set of over 5,000 images, resulting in a stunning accuracy rate of 99.2%.
- Improved classification accuracy of automobile parts by 73% using transfer learning with Inception v3.
- Utilized Siamese Networks to accurately verify the known/unknown status of automobile parts using statistical similarity measures, resulting in a remarkable accuracy of ~98% on out-of-training data.
- Streamlined CNN operations by expertly optimizing its design and architecture, resulting in a 20% reduction in training time and a noticeable increase in efficiency and productivity.
- Implemented a custom YOLO v5 model using TensorFlow, enabling real-time object detection and recognition with a high level of accuracy (~97.6%) and balanced precision and recall.
- Contributed meaningful improvements to existing machine learning models and algorithms through carefully directed research, developing data visualizations and presenting experimental results to senior leadership. ([Project Demo](#))

Merkle Inc.

Pune, Maharashtra, India

Email Developer / Quality Assurance Associate and Tester

January 2020 – August 2021

- Deployed 100+ email campaigns for brands like Estée Lauder and MAC Cosmetics using Salesforce Marketing Cloud, delivering an average click-through rate of 25%.
- Developed and delivered personalized email campaigns at scale, with a reach of over 400,000 customers in 100+ countries worldwide, using Braze.
- Improved overall test cycle time by 40%, using Python scripting in automation testing.

PROJECTS

- **Binary Classification of Issues/Bug reports in Issue tracking systems** - [Project Link](#)
- **HUE Vision - Using TensorFlow JS for detection and tracking of eye movement through webcam in browser.** [Demo](#)
- **Moodytector: A Facial Feature & Emotion Detection Web App using React & face-api.js** - [Demo](#)

SKILLS and INTERESTS

Computer: Python, Scikit-learn, NumPy, Pandas, OpenCV, PyTorch, Keras, TensorFlow, NLTK, Matplotlib, Seaborn, Java, MySQL, HTML, CSS, JavaScript, C++, jQuery, YOLO v5, Plotly, NodeJS, Angular JS, Flask, FastAPI, PySpark, SQL, PyQt

Tools: WordPress, IntelliJ IDE, Git, JMP Pro (SAS), Salesforce Marketing Cloud, Selenium, MATLAB, Docker, IC Imaging Control for Computer Vision, JupyterLab, Tableau, Minitab, Streamlit, Docker, Healthcare Analytics, Power BI, CI/CD, MLFlow

Interests: Singing, Machine Learning, Artificial Intelligence, Computer Vision, NLP, Statistics, Deep Learning