

SIVAKALYAN SUBBIAH

MACHINE LEARNING ENGINEER | RUTGERS UNIVERSITY - MSCS

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New Brunswick, NJ

EDUCATION

Master of Science in Computer Science (Machine Learning) Rutgers University, New Brunswick, NJ, USA	Sep 2022 - May 2024
Master of Science in Data Science (Distance Learning) John Moore's University, Liverpool, UK	Sep 2019 - Sep 2021
Bachelor of Technology in Electronics and Communication Engineering Amrita University, Coimbatore, India	Aug 2013 - May 2017

TECHNICAL SKILLS

- **Programming Languages:** Python, C / C++, Java, JavaScript, HTML / CSS, R, MySQL, MS SQL
- **Frameworks & Libraries:** OpenCV, Scikit, TensorFlow, Keras, Pytorch, Hadoop, NumPy, Pandas
- **Deployment Tools:** GIT, SVN, Docker, Kubernetes
- **Tools:** Power BI, Tableau, SPSS, MATLAB, VS Code, Eclipse, Kubernetes - Lens, Linux shell script

PROFESSIONAL WORK EXPERIENCE

Research Assistant - Durandal Labs in the Department of Civil and Environmental Eng. Rutgers University NJ, USA Research Area – Computer Vision in Transportation	Dec 2023 – Present
<ul style="list-style-type: none">• Developed an advanced YOLO algorithm tailored for accurate vehicle identification and speed estimation, leveraging deep learning techniques to improve traffic monitoring and control systems, achieving 95% accuracy in vehicle detection.• Engineered a web interface for real-time YOLO algorithm-based vehicle tracking and analysis in drone-captured video streams, handling over 1,000 vehicles per hour with 99.9% system uptime.	
Consultant / Analytics Quotient (A Kantar Company) Bangalore, India	Apr 2020 – Jul 2022
<ul style="list-style-type: none">• Orchestrated an automation pipeline integrating over 250 diverse data sources, achieving a 30% reduction in manual data collation time.• Pioneered a cutting-edge Python-based data harmonization automation pipeline, enhancing efficiency by reducing data processing time by 30%.• Spearheaded data analytics projects, unveiling key insights that resulted in a 20% increase in data-centric strategic decisions and propelled a 25% higher adoption rate of Power BI dashboards among end-users.	
Senior Analyst / Analytics Quotient (A Kantar Company) Bangalore, India	Jun 2017 – Apr 2020
<ul style="list-style-type: none">• Identified 5+ strategic focus areas for a top-tier multinational beverage corporation, leading to an interactive Excel tool's development.• Designed and built advanced regression models to increase market share for targeted products by 15% through data-driven insights.• Processed extensive client data with SPSS, resulting in a 98% accuracy rate in an interactive dashboard using HTML, Java, JavaScript, MySQL and verified using SQL.	

RELEVANT PROJECTS

English – French Translation Natural Language Processing - Project Link	Aug 2023 – Dec 2023
<ul style="list-style-type: none">• Improved English-to-French translation accuracy by 16% using a Transformer-based model trained on 163,765 sentence pairs, achieving low perplexity, and enhanced complex sentence handling.	
Colorization of Grayscale Image Computer Vision - Project Link	Jan 2023 – May 2023
<ul style="list-style-type: none">• Optimized a VGG encoder and GAN on 10,000 ImageNet samples to enhance colorization accuracy by 20%, and applied semantic segmentation with localized tone mapping, improving color scale accuracy by 33% in images and videos.	
Online Auction System Full Stack Application - Project Link	Jan 2023 – May 2023
<ul style="list-style-type: none">• Formulated and scaled a Java/MySQL online auction platform to support 500+ concurrent users, incorporating full-stack development from inception to accommodate 50+ active users with comprehensive seller and buyer functionalities.	
Optimizing IPL T20 Cricket Team Selection Machine Learning - Project Link	Jan 2021 – Sep 2021
<ul style="list-style-type: none">• Implemented a Python-based ML model using feature engineering and regression techniques on 200+ player profiles to enhance optimal team selection accuracy by 25% through dataset analysis, random forest, and neural networks.	

CERTIFICATIONS

- Cisco Certified Networking Associate (CCNA) issued by the **NIIT Institute, Coimbatore.**
- Post Graduate Diploma (PGDA) in Data Science issues by **UpGrad Institute.**