RAJ KAMAL SINGH

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ABOUT

Data Scientist with a strong foundation in machine learning, deep learning, and data analytics. Passionate about developing AI-driven solutions to optimize processes, extract insights, and drive innovation. Experienced in working with large datasets, building predictive models, and deploying AI applications across various domains. Skilled in problem-solving, research, and data-driven decision-making.

EDUCATION

University of Maryland, College Park, USA	**May 2026**
M.S. in Data Science	**CGPA: 3.86**
University of Petroleum and Energy Studies, Dehradun, India	**June 2020**
B.Tech in Computer Science and Engineering	**CGPA: 7.92**

RESEARCH PAPER

GAN & IEC Approach for Image Generation

- **Publisher**: IEEE 2022 International Symposium on Multidisciplinary Studies and Innovative Technologies(ISMSIT)- Oct 2022
- Developed a **GAN model** coupled with IEC to generate synthetic images, improving dataset diversity and achieved **94% realism rating** and **20% reduction** in model collapse using improved training strategies.

PROJECTS

Stock Price Prediction Using LSTM

- Developed a deep learning pipeline using **LSTM** with engineered technical indicators (e.g., RSI, MACD, SMA) and integrated **news sentiment scores**, achieving **a 15% improvement in prediction accuracy** over baseline models.
- Built a real-time prediction **API using FastAPI**, deployed via **Docker on AWS EC2** and automated end-to-end pipeline using cron, reducing manual maintenance by **100%** and ensuring model freshness.
- Achieved **Mean Absolute Error (MAE)** of **1.73** and **Root Mean Squared Error (RMSE)** of **2.91** on test data, with consistent prediction stability across multiple tickers.

Real-Time Face Detection and Gender & Emotion Classification

- Engineered a **real-time face detection system** using OpenCV and CNN, achieving **98% accuracy**.
- Developed a **gender classification model** with **92% accuracy** and an emotion recognition system with **87% accuracy**.

Object Detection and Classification

- Built an **object detection model** recognizing **20+ object categories** with **95% classification accuracy**.
- Reduced false positives by **15%** through iterative dataset enhancements.

Linear Programming and GA Approach to Minimize Energy Consumption of Cloud Data Centre

- Applied **Linear Programming and Genetic Algorithms**, reducing **energy consumption by 22%**.
- Optimized **resource allocation and scheduling**, improving **server efficiency by 18%**.

SKILLS

- **Programming Languages:** Python, C++
- **Machine Learning & AI:** TensorFlow, PyTorch, Computer Vision, Neural Networks
- **Data Science & Analytics:** SQL, Pandas, NumPy, Scikit-Learn
- **Other Technical Skills:** Git, JMeter, API Testing, Matlab
- **Soft Skills:** Leadership, Critical Thinking, Communication, Time Management, Adaptable

WORK EXPERIENCE

Quality Analyst, Nimbbl, Gurugram, India   **July 2022 – July 2024**

- Led QA operations, reducing **critical software defects by 30%** through workflow optimization and process streamlining.
- Designed and optimized **workflow test plans**, enhancing **product quality by 35%**.
- Conducted system performance evaluations and utilized data analysis, resolving **92% of reported issues** within sprint cycles.
- Implemented API automation using JMeter, achieving **50% faster test execution** and **20% improvement** in defect detection.

Quality Assurance Engineer, Larsen and Toubro Infotech Ltd. (LTI), Pune, India   **June 2020 – June 2022**

- Developed QA test cases and procedures, reducing **post-release defects by 25%** through systematic data analysis.
- Managed and documented **500+ manual test cases**, ensuring **100% test coverage** and contributing to clear technical documentation.
- Achieved **97% on-time project delivery**, earning commendation from an overseas client manager and supporting a collaborative and agile environment.