Utkarsh **Tripathi**

DATA SCIENCE | IoT | EMBEDDED ML

INDIA

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Experience

RiskPe (Insurtech Startup)
BUSINESS INTELLIGENCE & ANALYTICS CONSULTANT

Jan 2025 - Present
Jaipur, Rajasthan

- **Reduced reporting latency by 40%** by designing automated ETL pipelines for policy, quote, and lead systems.
- **Improved conversion tracking accuracy** by developing Power BI dashboards that visualized underwriting KPIs and fraud indicators.
- **Boosted sales forecasting precision by 15%** using Python-based models, enabling data-driven business planning.

KEYWORDS: Power BI, Python, SQL, Forecasting, KPI Dashboards, Business Intelligence

Habitat (Sheshsuki Automation Pvt. Ltd.)
COMPUTER VISION CONSULTANT

July 2024 - Dec 2024
Bangalore, Karnataka

- **Cut ANPR system costs by 50%** by deploying a YOLOv7-based solution on BeagleY-AI, outperforming traditional setups.
- **Achieved real-time edge inference** with OpenCV optimizations, enabling scalable license plate detection in low-power environments.

KEYWORDS: YOLOv7, OpenCV, Edge Inference, Embedded Systems, Cost Optimization

Siemens Mobility
SYSTEM ENGINEER | DATA ANALYST

July 2021 - June 2023
Bangalore, Karnataka

- **Enhanced operational efficiency by building Python + Plotly & PowerBI pipelines** for Vienna Metro, Sydney Airport Line, and Indian verticals.
- **Automated condition monitoring** via ETL scripts, reducing manual data processing time by 30%.

KEYWORDS: Python, Power BI, Engineering Analytics, ETL, Plotly, Resource Forecasting

Projects

Diagnostics data transmission in Indian Railway Locomotives   2023
- **Enabled real-time telemetry in low-connectivity zones** by prototyping an ESP32-based SFTP system, simulating locomotive diagnostics transmission.

KEYWORDS: ESP32, SFTP, Linux Networking, Embedded Systems, Diagnostics Simulation

ASO-Kit – Explainable Optimization Toolkit   2023
- **Accelerated aerodynamic design iterations by 3x & improved optimization by 10%** by combining ANN surrogate models with Particle Swarm Optimization (PSO).

KEYWORDS: Surrogate Modeling, Aerodynaic Shape Optimization, PSO, Optimization Visualization, Solver Strategy

Data Miner for POSOCO Website   2020
- **Automated extraction of national power consumption** data via PDF scraping (Tesseract/BeautifulSoup), cutting manual collection time by 90%.

KEYWORDS: Tesseract, BeautifulSoup, Scheduling, PDF Parsing

Resume Parser   2020
- Reduced **HR screening time to less than an hour** by building an OpenCV + OCR tool to auto-categorize unstructured CVs.

KEYWORDS: OpenCV, OCR, Resume Analysis

Education

Diploma in Data Science and Applications, Indian Institute of Technology Madras, Chennai, Tamil Nadu   2025
Diploma in Programming and Applications, Indian Institute of Technology Madras, Chennai, Tamil Nadu   2025
BSc in Transportation Technology, National Rail and Transportation Institute, Vadodara, Gujarat   2021

Research

Thesis, NRTI: Artificial Neural Network assisted Aerodynamic Shape Optimization   2021
Research Internship, IIT Madras: Impact of COVID 19 on the energy economy of Indian MSME   2020

Skills

Soft-skills: Leadership, Stakeholder Management, Problem-Solving, Technical Communication, Agile Prototyping
AI/ML: Python, PyTorch, OpenCV, Scikit-learn, TensorFlow Lite, YOLOv7, Surrogate Modeling, OCR (Tesseract)
Data Engineering: BI Dashboards, ETL pipelines, Timeseries Analytics, SQL, Forecasting & Predictive Analytics