JEEL DONGA

AI/ML Engineer | FastAPI Developer | AI Researcher

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ABOUT ME

Computer Engineering student with experience in AI/ML, Data Science, FastAPI backend development, REST APIs, and full-stack web applications. Passionate about building intelligent systems that integrate AI, IoT, and embedded technologies to solve real-world challenges. Skilled in building scalable software solutions, integrating machine learning models, and developing intelligent systems using modern technologies. Eager to contribute technical expertise and continuously learn in fast-paced engineering environments.

SKILLS

- **Languages:** Python, C, Java, JavaScript
- **Data Science:** Data Analytics, Data Science, EDA, Time series Forecasting, Data Visualization(PowerBI)
- **AI / ML:** Machine Learning,Deep Learning, NLP, Computer Vision, OpenCV, pyTorch/Tensorflow
- **Frontend:** React.js, Next.js, HTML, CSS, Bootstrap
- **Backend:** Node.js, Flask, FastAPI, REST APIs, JWT Authentication
- **Database:** MongoDB, SQL
- **Tools & Technologies:** Git, Automated Workflows (N8N), Model Deployment, Embedded Systems, IoT & Robotics
- **Core Skills:** Algorithmic Problem Solving, Project Management, Software System Design

FEATURED PROJECTS

T-MOS: Transformer-Based Multi-Organ Segmentation from Laparoscopic Images | Research Project | 2026

- Developed a deep learning framework for multi-organ segmentation in laparoscopic images using pyTorch & Tensorflow and CNN and Transformer-based architectures (U-Net, DeepLabV3+, Swin U-Net, Swin UNETR).
- Implemented weighted Dice loss and unified multi-class masking to improve small-organ segmentation and enable efficient multi-organ analysis.
- Designed a standardized evaluation pipeline for fair benchmarking of segmentation models, achieving Dice scores up to 0.887 and mIoU above 0.80.
- Secured 1st Prize & won cash prize in the OEP Poster Presentation Competition; research paper based on this work is currently under review for publication.

EV Trend Prediction & Analysis | 2025

- Used Pandas and NumPy to clean, preprocess, and analyze 200K+ EV records through exploratory data analysis (EDA).
- Used Prophet, Matplotlib, and Seaborn to forecast EV adoption trends and create data visualizations for trend analysis.
- Used Folium to build geo-visualizations and analyze EV pricing, vehicle performance, charging infrastructure, and environmental impact, identifying 964M+ kg CO_2 emissions savings.

AI-Based Connector Defect Detection for Industrial Quality Inspection | 2025

- Developed a real-time industrial inspection system using Python, TensorFlow, OpenCV, and live camera feeds for automated connector defect detection and quality analysis.
- Integrated AI-based fault classification with hardware indicators and alert mechanisms, achieving 90.32% accuracy and enabling automated quality-control workflows.

Smart Doc AI – AI-Powered Document Intelligence Platform | 2025

- Built a full-stack AI-powered document intelligence platform using ReactJS, Next.js, FastAPI, MongoDB, and Gemini API, featuring document processing, context-aware Q&A, chat management, dashboard analytics, JWT authentication, REST APIs, and PDF/TXT export functionality.

PROFESSIONAL EXPERIENCE

Data Science Intern | CodeAlpha | Jun 2026

- Developed ML models and predictive analytics solutions using Python and Scikit-learn.
- Performed data preprocessing, EDA, and visualization on real-world datasets.
- Built classification, regression, and forecasting projects.

ACHIEVEMENTS & LEADERSHIP

- Secured ₹60,000 project grant for TransitGuard, an AI-powered public transport monitoring system that used Computer Vision to automate passenger counting, verify ticket issuance, and reduce revenue leakage through intelligent surveillance analytics.
- Google Student Ambassador (GSA) – Led technical community initiatives, organized workshops and events, and promoted technology adoption while engaging and mentoring students across the campus ecosystem.

ACTIVITIES

Hackathons & Competitions

- NASA Space Apps Challenge – Developed an AI-integrated dashboard for NASA research analysis and data visualization.
- DevHeat Finale (IIIT Surat) – Designed and developed a Digital Profile Analyzer.
- IEEE Datathon – Built an EV trend analysis and forecasting dashboard using data visualization techniques.
- Gen AI Exchange – Developed an AI-powered stock market analysis dashboard for financial data insights and trend visualization.

Cultural & Leadership

- Organized and executed major college events including Exuberance, Verve, SSIP programs, and SCET Tech Fest "Kshitij", managing planning, coordination, and cross-functional teams.
- Negotiated corporate sponsorships, contributing to a 15% increase in event funding, and served as a Technical Member of Coding Ninjas and the Full Stack Development Club, supporting technical workshops and student initiatives.

EDUCATION

Sarvajanik College of Engineering & Technology (SCET), Surat

Bachelor of Technology in Computer Engineering – CGPA : 9.772 (Till Sem 5) 2023 - 2027

Honors in Artificial Intelligence & Machine Learning – CGPA : 10 2024 - 2027

Mauni International School (MIS), Surat

Higher Secondary (Class XII) – (GHSEB - Science Stream) – Percentile : 99.27 2021 - 2023