Durvesh Baharwal

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Portfolio | LinkedIn | GitHub

Full Stack AI Engineer

Full Stack AI Engineer with 2 years in AI/ML, data science, and automation. Expert in building scalable agentic workflows, automating marketing processes, and developing advanced computer vision systems. Skilled in Python, LLMs, Streamlit, n8n, Selenium, Docker, and AWS.

WORK EXPERIENCE

Associate Full Stack AI Engineer

AI Alpha Tech, Nashik | 06/2024 - Present | Nashik, India

- **EdgeCam & Industrial Object Tracking (SaaS):** C++17, TFLite, YOLOv8, SAM2, GStreamer, AWS Lambda, Docker, NB-IoT Unified edge-to-cloud tracking system using C++ daemons on Raspberry Pi 5 and React/SaaS on AWS. Achieved 30+ FPS real-time detection and autonomous inventory management, reducing shrinkage by 40% and manual oversight by 80%.
- **Chairman Saheb App Chatbot (SaaS):** Flutter, Node.js, AI Agent, UI Automation Conversational chatbot with tutorial mode that dynamically generates guides and interacts with the UI to navigate and assist users in real-time.
- **Taparia Tools Manufacturing and Packaging Optimization:** Prescriptive Analytics, NVIDIA cuOpt, WILP, Microsoft Azure ML, Data Analysis Optimized manufacturing and packaging workflows using prescriptive analytics and NVIDIA cuOpt. Leveraged WILP for mathematical modeling and Microsoft Azure ML for cloud-scale data analysis.
- **Identity Verification & Anti-Spoofing System (SaaS):** Deep Learning, OpenCV, Docker, FaceNet, TensorFlow, Android Identity verification & anti-spoofing system (92-95% accuracy). Deployed on Android/Docker to prevent presentation attacks.
- **Vehicle Detection & ANPR System:** YOLOv8, OCR, PyTorch, TensorFlow, OpenCV Real-time ANPR & vehicle detection (YOLOv8, OCR). Implemented custom CNNs for >90% accuracy.
- **Physiotherapy Pose Detection:** MediaPipe, OpenCV, React Real-time exercise monitoring system with angle calculations and form correction, providing 95%+ landmark detection accuracy.

Contact: hr@aialphatech.com - +91 86240 77980

Data Science & Research Intern

Indian Space Research Organization (ISRO) | 07/2023 - 12/2023 | Ahmedabad, Gujarat, India

- **GNSS Positioning Research**: Developed Adaptive Kalman Filter (MLE), improving navigation accuracy by **37%** and reducing noise by **30%**.
- **Simulation & Hybrid Systems**: Simulated Moving Window Average (87% accuracy) and built hybrid GNSS system (Least Squares + Random Forest) for 4.48m positional accuracy.

Contact: SMT. Durga Digdarsini - digdarsini@sac.isro.gov.in

PERSONAL PROJECTS

- **Diamond Defect Detection & Analysis:** Ghidra, Python, OpenCV, Reverse Engineering Reverse-engineered Sarine formats for custom AI defect detection, saving $50K+/year.
- **Trading Automation System:** Python, ML Models, APIs Algorithmic trading platform with ML-based price prediction and systematic risk management for 24/7 market participation.
- **AI Agent - Conversational Assistant:** Python, FastAPI, NLP, Intent Recognition Custom AI agent for task automation/customer support, reducing manual interactions by 40% via NLP.
- **DOT Seismic Detector:** Ghidra, Python, OpenCV, Reverse Engineering Analyzed Apollo/Mars seismic data using signal processing (noise filtering, quadratic fitting), achieving 96% event detection accuracy.

EDUCATION

B.E. in Artificial Intelligence & Data Science

AISSMS Institute of Information Technology | Pune, India | CGPA: 7.76/10

SKILLS

Python | C++17 | TypeScript | JavaScript | SQL | React | Next.js | Node.js | FastAPI | Flutter | Computer Vision | Generative AI | LLMs & RAG | Agentic AI | Deep Learning | Prescriptive Analytics | NVIDIA cuOpt | WILP | Kalman Filter | Signal Processing | YOLOv8 | SAM2 | OpenCV | TFLite | PyTorch | TensorFlow | GStreamer | AWS Cloud | Microsoft Azure ML | Google Cloud Platform | Docker | Linux | Yocto Project | NB-IoT | n8n Automation | Selenium | Reverse Engineering | Streamlit

PUBLICATIONS

Enhancing GPS Positioning Accuracy Using Machine Learning Regression
International Journal of Technology Engineering Arts Mathematics Science
Vol. 4, No. 1, June 2024, pp. 01~06, ISSN: 2583-1224