Navneeth Premanand

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Professional Summary

Applied ML / AI Engineer with a Master's degree in Data Science and hands-on experience training, evaluating, and integrating machine learning models into software systems. Strong background in computer vision using CNN-based approaches, with experience building end-to-end ML workflows from data preprocessing and experimentation to API-based deployment. Most effective at the intersection of machine learning and software engineering, translating ML models into usable, production-oriented applications.

Core Skills

Machine Learning: Model training and evaluation, cross-validation, error analysis, class imbalance handling, feature engineering, hyperparameter tuning

Computer Vision: CNN-based image classification, transfer learning, data augmentation, comparative model analysis (VGG-style, ResNet-style architectures)

ML Engineering: ML pipelines, experiment tracking, API-based model serving, authentication and logging for ML services, basic retraining workflows

Programming: Python (NumPy, Pandas, scikit-learn), TensorFlow/Keras, PyTorch, REST APIs

Software
Cloud: Flask, FastAPI, Node.js integration with Python services, AWS (EC2, S3, IAM, Route 53), Docker, Git/GitHub Actions

Foundational Exposure: NLP text preprocessing, speech-to-text pipelines, ML lifecycle concepts (monitoring, drift awareness)

Professional Experience

Full Stack Developer — **May 2025 – Nov 2025**
Flo Mobility — *Bengaluru, India (Remote to Dubai)*

- Developed and maintained a full-stack platform supporting 50+ autonomous robot fleet operations, integrating analytics and backend services
- Built interactive analytics dashboards with 10+ visualizations to track operational KPIs, downtime patterns, and productivity metrics
- Optimized MongoDB aggregation pipelines and indexing strategies to improve analytics query performance
- Collaborated with stakeholders to translate operational requirements into data-backed software features

Full Stack Developer (Contract) — **Aug 2024 – Apr 2025**
Rynova Trade LLC — *Dubai, UAE*

- Led end-to-end delivery of a production React-TypeScript website from requirements gathering to deployment
- Deployed and maintained the application on AWS with SSL, CI/CD pipelines, and monitoring via logging
- Configured Google Analytics and built dashboards to analyze user behavior and conversion metrics

Business Process Automation Intern — **Feb 2024 – Apr 2024**
ACZ Global Pvt Ltd — *Bengaluru, India*

- Documented end-to-end business processes and authored System Requirement Specifications (SRS) for predictive modeling initiatives
- Performed workflow analysis to identify automation opportunities and define data flow requirements

AI Engineering Intern **Jun 2023**
Open Weaver *Bengaluru, India*

- Performed EDA and data preprocessing on medical imaging datasets for deep learning experimentation
- Implemented and evaluated CNN-based models for breast cancer classification using TensorFlow and Keras
- Analyzed model performance using precision, recall, and confusion matrices and communicated results via reports

Full Stack Developer **Sep 2021 – Sep 2022**
ACZ Global Pvt Ltd *Bengaluru, India*

- Designed and deployed an ERP/HRMS system for 40+ users using the MERN stack on AWS
- Gathered requirements, conducted UAT, and supported change management for a paperless workflow transformation

Projects & Research

Performance Evaluation of CNNs for Stellar Image Classification | *IEEE Xplore*

- Led the design, experimentation, and evaluation of CNN-based models for star–galaxy classification using the SDSS dataset
- Compared VGG-style, ResNet-style, and parallel CNN architectures using precision, recall, accuracy, and confusion matrices
- Implemented a complete ML pipeline including preprocessing, augmentation, training, hyperparameter tuning, and statistical evaluation

COVID-19 Detection from Chest X-Rays

- Developed a parallel CNN-based image classification model to predict COVID-19 likelihood from chest X-rays
- Served model predictions via Flask/FastAPI endpoints and integrated them into a full-stack application
- Applied class imbalance handling and error analysis to improve model reliability

Education

Master of Science in Data Science **2022 – 2024**
Christ University *Bengaluru, India*

- Thesis: Performance Evaluation of Convolutional Neural Networks for Stellar Image Classification (Published in IEEE Xplore)

Bachelor of Science in Computer Science, Mathematics & Statistics **2018 – 2021**
Christ University *Bengaluru, India*

Certifications

- Google Data Analytics Professional Certificate — Coursera
- Business Analysis & Process Management — Coursera
- Data Science 101 — IBM
- Cybersecurity and Internet of Things — University System of Georgia (Coursera)