

Amarnath D.J.

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SUMMARY

B.Tech Computer Science (AI & ML) student at SCTCE with hands-on experience building end-to-end machine learning pipelines, deploying production-grade web apps, and applying deep learning and computer vision to real-world problems. Proficient in Python, Scikit-learn, TensorFlow, XGBoost, and Flask. Seeking roles in AI/ML Engineering, Data Science, or Full-Stack Development.

SKILLS

AI & ML: Scikit-learn, TensorFlow, XGBoost, Regression, Classification, Clustering, Model Evaluation

Deep Learning & CV: YOLOv8, ByteTrack, CNN, OpenCV, Object Detection & Tracking

Data Science: Pandas, NumPy, EDA, Data Wrangling, Statistical Analysis, Matplotlib, Seaborn, Plotly

Languages & Tools: Python, Java, C, SQL, HTML, GitHub, Jupyter, VSCode

MLOps & Deployment: Flask, FastAPI, Streamlit, Docker, Render, AWS (basic), Azure (basic)

Core CS: Data Structures & Algorithms, OOP, Operating Systems

EXPERIENCE

Summer Intern

June 2026 – Present

ICFOSS, Karyavattom, Thiruvananthapuram

- Working on the **ML-Based Acoustic Rain Gauge** project: developing an acoustic rainfall estimation system using audio signal processing and machine learning to predict rainfall intensity from environmental recordings.
- Synchronising model output with mechanical rain gauge measurements for ground-truth validation.

PROJECTS AND RESEARCH

Vision-Based Crowd Footfall Prediction System

GitHub

Tech: YOLOv8, ByteTrack, SARIMA, OpenCV, Python

- Built a real-time crowd monitoring system using YOLOv8 and ByteTrack for people detection and tracking.
- Applied SARIMA time-series forecasting to predict crowd flow from CCTV-derived data.

Pre-Match Player Rating Prediction using Machine Learning

GitHub

Tech: Python, XGBoost, Flask, Feature Engineering

- Built a full-stack ML application to predict football player match ratings using XGBoost and Flask.
- Engineered performance metrics including rolling form, opponent strength, and rest days.
- Deployed the model as a production-ready web application on cloud infrastructure.

FIFA World Cup 2026 Predictor

GitHub

Tech: Python, Monte Carlo Simulation, Elo Ratings, Football Analytics, ML

- Building a tournament simulation and prediction engine for the 2026 FIFA World Cup.
- Incorporating team strength metrics, Elo ratings, squad valuation data, and Monte Carlo simulations.
- Estimating qualification probabilities and tournament winners through statistical modelling.

EDUCATION

B.Tech Degree in CSE (AI/ML)

2023 – Present

Sree Chitra Thirunal College of Engineering (SCTCE), Thiruvananthapuram

ICSE / ISC Board (Class X & XII)

2008 – 2022

Loyola School, Thiruvananthapuram