# AADIP THAPALIYA

**Data Science & Machine Learning Student**

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## PROFILE

Data science student with hands-on experience in machine learning, computer vision, and end-to-end model deployment. Strong foundation in Python, TensorFlow/PyTorch, and modern ML frameworks, with proven ability to build production-ready solutions for classification, forecasting, and industrial applications.

## EXPERIENCE

### Machine Learning Research Project

**Varun Herbal Pvt. Ltd.**

Jan 2025 – Jul 2025 | Remote

- Achieved 90% crop yield prediction accuracy on 10,000+ records from weather APIs, soil sensors, and IoT devices using ensemble methods
- Built CNN-based plant disease classifier achieving 85% accuracy on 15,000+ images using data augmentation and transfer learning
- Processed multivariate time series with seasonality patterns for real-time irrigation scheduling optimization

## PROJECTS

### Contextual Likelihoods For User Centric Evaluation – CLue

- Achieved MAE of 12.4 on 30-day financial forecasts across multiple time series with 20% test split validation
- Built hybrid Auto-ARIMA and XGBoost pipeline with automated hyperparameter tuning for optimal model selection
- Developed desktop application using PySide6 with Yahoo Finance API integration, CSV upload, and automated PDF report generation with confidence intervals

### Energy Advanced Time Series Prediction

- Engineered forecasting system using LSTM, GRU, ARIMA, and SARIMA with hyperparameter optimization and multi-metric evaluation (MAE, RMSE, MAPE)
- Conducted literature review of 15+ peer-reviewed papers, synthesizing techniques to establish theoretical foundation for production-grade implementation
- Architected end-to-end ML pipeline with statistical characterization, temporal analysis (autocorrelation, seasonality), baseline benchmarking, and reproducible experiment tracking

### Advanced Time Series in Finance – Team Project

- Improved forecasting performance by 27% through systematic feature engineering and preprocessing pipelines
- Benchmarked classical (ARIMA, SARIMA), ML (XGBoost, LightGBM), and deep learning (LSTM, GRU) models on 10–15 years of financial data
- Built preprocessing pipelines with stationarity tests, detrending, differencing, and lag feature creation for model optimization

## EDUCATION

### B.Sc. Digital Business & Data Science

**University of Europe for Applied Sciences**

2024 – 2027 | Potsdam, Germany

### Machine Learning Degree Program

**opencampus.sh (CAU Kiel)**

Present | Kiel, Germany

## TECHNICAL SKILLS

Python | TensorFlow | PyTorch | OpenCV | Scikit-learn | Pandas | NumPy | SQL | PostgreSQL | XGBoost | LightGBM | Docker | Git

## CORE COMPETENCIES

- Computer Vision & Image Processing
- Machine Learning & Deep Learning
- Time Series Forecasting
- End-to-End ML Deployment
- Data Analysis & Statistical Modeling
- Object-Oriented Programming

## CERTIFICATIONS

**Advanced Time Series Prediction**
**opencampus.sh**
LSTM, GRU, Forecasting

**Foundational Mathematics for AI**
**opencampus.sh**
Linear Algebra, Calculus, Statistics

**Git Training | Simplilearn**
Version Control, GitHub, GitLab

**Python Bootcamp | Udemy**
OOP, Data Structures, Algorithms

## LANGUAGES

**English (C1)**

**German (A2)**