

Vinaya k

AIML Engineer

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PROFILE

Enthusiastic AIML Engineer with practical experience in developing machine learning and basic deep learning models. Skilled in Python, data preprocessing, and implementing algorithms for classification, prediction, and automation tasks. Able to build end-to-end AI solutions, integrate models with web applications, and solve real-world problems using data-driven approaches.

EDUCATION

B Tech in Electronics and Communications Engineering College of Engineering Trikaripur	08/2019 – 07/2023 Kanhangad, India
Plus Two Durga Higher Secondary School	08/2017 – 04/2019 Kanhangad, India
SSLC Durga Higher Secondary School	05/2016 – 04/2017 Kanhangad, India

SKILLS

Python Core syntax, OOP, Data Structures, File Handling, API Integration, NumPy, Pandas, problem-solving	AI & Machine Learning Supervised & Unsupervised Learning, Model Building using Scikit-Learn, Deep Learning, Data Preprocessing & Feature Engineering, EDA, Image Processing, Model Evaluation, Working with ML Pipelines	Web & API Development HTML5, CSS3, JavaScript, React.js, Python Flask, MySQL basics, REST API Development & Integration, Responsive UI Design, Version Control	Prompt Engineering AI Interaction Design, Natural Language Prompting, LLM-based Application Design
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LANGUAGES

- English
- Hindi
- Malayalam

PROJECTS

MACHINE LEARNING & DATA SCIENCE

- Customer Segmentation using K-Means : Performed data cleaning, feature scaling, and exploratory data analysis on customer data. Applied K-Means clustering to segment customers into distinct groups for targeted marketing. Identified high-value customer clusters using the Elbow Method.
- Dog vs Cat Image Classification using CNN : Developed a Convolutional Neural Network using TensorFlow/Keras to classify dog and cat images. Used data augmentation techniques to improve model accuracy and generalization. Achieved 92-96% accuracy with optimized CNN architecture.
- Diabetes Prediction Model : Built classification models on the PIMA diabetes dataset using Scikit-Learn. Evaluated Logistic Regression, Random Forest, and SVM for best performance. Achieved 88% accuracy using a tuned Random Forest model.
- Rock vs Mine Prediction (Sonar Dataset) : Processed sonar frequency data and implemented machine learning models for binary classification. Selected SVM for its best accuracy in predicting rock vs mine signals. Achieved 85-90% model accuracy with cross-validation.
- House Price Prediction (Regression) : Performed feature engineering, handling missing values, and exploratory data analysis. Tested Linear Regression, Random Forest, and XGBoost for predicting house prices. Achieved 90%+ R^2 score using a tuned Random Forest Regressor.

Web & Software Development Projects

- Calculator Application
- Stopwatch Application
- BMI Calculator
- Currency Converter with API Integration
- Personal Portfolio Website
- Flask-Based CRUD Application

Plastic bottle reverse vending machine with coin dispenser

- Implemented a smart Plastic Bottle Recycling System using Raspberry Pi and image processing to detect and classify bottles in real time. Integrated reward-based Reverse Vending Machine (RVM) logic to encourage proper disposal, reduce pollution, and promote cost-effective sustainable recycling practices.