Arushi Puranik

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Summary

Detail-oriented Python Developer with expertise in backend development, REST API design, and database management. Proficient in Flask, Django, and FastAPI for building scalable services. Strong background in system integration, testing, and writing maintainable, production-ready code.

Education

Acropolis Institute of Technology and Research — Indore, India
B.Tech in Computer Science — *2021 – 2025*

Vidya Sagar School — Indore, India
Senior Secondary — *2020 – 2021*

Projects

Fingerprint-Based Voting System | *Python, Flask, MySQL* — Jun 2024 – Nov 2024

- Designed and implemented a secure backend for a biometric-enabled voting platform to ensure one-person-one-vote compliance.
- Developed REST APIs in Flask to handle voter registration, authentication, and encrypted ballot submission.
- Integrated MySQL with connection pooling and query optimization to process thousands of concurrent requests during peak voting hours.
- Adopted a modular architecture separating controllers, models, and services, improving maintainability and scalability for deployment in large-scale elections.

California Housing Price Prediction API | *Python, Flask, Pandas, Scikit-learn* — May 2023 – Aug 2023

- Developed a Flask-based REST API for predicting California housing prices using a trained regression model.
- Implemented a Pandas-driven preprocessing pipeline to clean and normalize input data in real-time before prediction.
- Added endpoints for training, prediction, and model management, allowing hot-swapping of updated models without downtime.
- Automated model retraining with scheduled scripts pulling fresh datasets to maintain prediction accuracy.

Backpack Price Predictor Service | *Python, Flask-RESTX, Random Forest* — Dec 2022 – Jan 2023

- Built an e-commerce-focused price prediction microservice using Random Forest regression.
- Created an API using Flask-RESTX with interactive Swagger documentation to simplify testing and integration for client teams.
- Integrated caching for repeated queries, reducing response time by over 50%.
- Designed CLI tools with argparse for batch prediction processing, API testing, and automated model retraining workflows.

Hand Sign Detection | *Python, OpenCV, TensorFlow* — Feb 2024 – Apr 2024

- Engineered a real-time gesture recognition system capable of translating hand signs into text output.
- Leveraged OpenCV for live video capture, preprocessing (grayscale, thresholding, contour detection), and frame management.
- Trained a TensorFlow CNN model on a custom dataset, achieving ∼90% classification accuracy.
- Optimized inference pipeline for low-latency processing, enabling use in assistive communication devices.

Technical Skills

Languages: Python, SQL, C++
Web Frameworks: Flask, Django, FastAPI
Databases: MySQL, SQLite
API Development: REST APIs, Swagger, HTTP Methods
Libraries: Pandas, NumPy, Requests, Matplotlib, Scikit-learn
Testing & Debugging: Pytest, Unit Testing, Logging
Version Control: Git, GitHub
Tools: VS Code, PyCharm, Jupyter Notebook, Google Colab