

# Pushkar

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## EDUCATION

### Maharshi Dayanand University

B.TECH in Computer Science and Engineering

Rohtak, Haryana, India

Graduated - 2024

## TECHNICAL SKILLS

**Programming Languages:** Python, C++, SQL

**Backend:** FastAPI, Django, REST APIs, JWT Auth, Async Programming

**Databases:** PostgreSQL, MySQL, SQLAlchemy ORM, Alembic

**DevOps & Tools :** Docker, Git, Github, Linux, Nginx, CI/CD (Github Actions)

**Cloud:** AWS(EC2, S3, IAM)

**Data & ML:** Pandas, NumPy, scikit-learn (light ML integration)

**Other:** Logging, Error Handling, Caching & Rate Limiting (Redis - basic), Background Tasks

## PROJECTS

### Real-Time Taxi Demand Forecasting System

[GitHub](#)

*FastAPI, PostgreSQL, Pyspark, ML (Random Forest), Docker*

- Built a dashboard-driven system to visualize real-time taxi demand trends across multiple cities and zones.
- Developed and tuned a Random Forest regression model achieving an R<sup>2</sup> score of 0.93 for high-accuracy demand prediction.
- Served ML predictions through a backend API, enabling seamless real-time integration between the model and dashboard.
- Designed data pipelines for preprocessing, feature engineering, and hourly demand analytics to support forecasting.

### Smart Bank Loan Management & Risk Prediction System

[GitHub](#)

*React + FastAPI, PostgreSQL, ML(Random Forest), Dataset*

- Developed backend APIs for loan creation, approval workflow, EMI scheduling, and secure user authentication.
- Integrated Random Forest model to predict borrower default risk and automatically assign credit grades (A-G).
- Implemented dynamic interest rate assignment based on model-driven risk assessment and borrower profile.
- Designed normalized PostgreSQL schema for loans, users, risk scores, and repayment logs with proper indexing.

### Brain Tumour Detection API System

[GitHub](#)

*Flask, PostgreSQL/MongoDB, Docker*

- Built an end-to-end backend service for MRI brain tumour detection integrating a deep-learning model with a web API interface.
- Implemented secure file upload pipeline with server-side validation, preprocessing, and inference routing using a modular backend architecture.
- Designed database layer to store predictions, user logs, and metadata; enabled analytics and audit workflows.
- Containerized the application using Docker and structured the system for production deployment with environment-based configuration.

## CERTIFICATIONS

- Python Programming Certification – Anaconda
- Docker Foundations – LinkedIn Learning
- System Design and API Development – Online Bootcamps
- Career Essentials in Data Analysis – Microsoft

## EXTRACURRICULAR ACTIVITIES

- Volunteered in college technical events and assisted juniors with Python and SQL concepts.
- Participated in informal chess meetups and college chess events.