

# Shail K Patel

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## EDUCATION

**LJ University**

**July 2023 - August 2027**

*Degree: B.Eng in Artificial Intelligence and Machine Learning*

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## WORK EXPERIENCE

**GetMySpace**

**Jan. 2025 – Jun. 2025**

*Machine Learning Engineer*

- Parking management startup using AI and automation for vehicle and space tracking.
- Developed the first AI-powered prototype for real-time parking management with computer vision + ML to automate vehicle/slot detection.
- Built and deployed models in Python/PyTorch, cutting processing time to ~4s with update latency ~0.7s. Designed backend logic and MongoDB systems to manage prediction outputs, user logs, and dynamic updates for scalable performance.

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## PROJECTS

### [PredictGrad – Academic Risk Detection with ML](#)

Forecasted Semester 3 marks and flagged at-risk students via percentile drop analysis.

Built subject-wise regression models (Voting: Ridge, Lasso, ElasticNet) on Semester 1–2 data and a classification pipeline (Stacking: CatBoost, BalancedBagging, ExtraTrees) to detect  $\geq 10$  point drops.

Achieved MAE 5.16–7.10 (subject-wise) and F1-score 0.51.

Added SHAP-based explanations with a risk dashboard.

**Tech:** Python, Scikit-learn, CatBoost, LightGBM, SHAP, Streamlit.

### [Beyond The Marks – Learning Impact & Bias Detection Tool](#)

Built a statistical + ML pipeline to analyze student performance and detect grading bias using SHAP/Shapley values.

Quantified teacher effectiveness via attendance and mark distribution, and engineered indicators (avg. marks, attendance trends) to assess learning outcomes.

Applied explainable AI to measure influence of student factors (attendance, gender, religion), flagging bias when Shapley impact  $> 0.30$ .

Used one-hot encoding to isolate categorical effects and computed correlations across subjects and attendance.

### [RaddiWala – Scrap Collection Marketplace \(MERN Stack\)](#)

Digitized scrap-selling by connecting customers with Raddiwalas. Implemented photo-based pickup requests, competitive bidding, and mutual ratings with role-specific workflows (customers upload + receive bids; Raddiwalas place offers + manage pickups).

Built passwordless Email+OTP authentication with JWT + secure cookies. Integrated Multer for image uploads, Nodemailer for OTP delivery, and subscription tiers (free/premium). Developed dashboards for request browsing, bid management, and transaction completion.

**Tech:** Node.js, Express.js, MongoDB (Mongoose), Pug, Vanilla JS, JWT, Multer, Nodemailer

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## CERTIFICATIONS, SKILLS & INTERESTS

- **Certifications:** Stanford: Supervised Machine Learning: Regression and Classification, IBM: Python for Data Science, AI & Development, IBM: Databases and SQL for Data Science with Python.
- **Technologies:** Python; Scikit-learn; TensorFlow; Streamlit; Flask; PostgreSQL; MySQL; MongoDB.
- **Skills :** Supervised Machine Learning; Deep Learning; Neural Networks; SQL; NoSQL; Data Analysis; Statistical Analysis.