# Harsh Patel

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Artificial Intelligence &
Data Science Graduate

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**AI/Data Science graduate** seeking roles in machine learning engineering. Proven ability to build interpretable ML solutions and lead technical teams.

## Education

**Bachelor of Technology in Artificial Intelligence and Data Science** — **Oct. 2021 — Jun. 2025**
Madhav Institute of Technology & Science, Gwalior | CGPA:6.38/10.00

**Higher Secondary Education (CBSE XII - P.C.M)** — **Jul. 2018 — Mar. 2020**
GVN - The Global School, Bhopal | Score: 69%

**Secondary Education (CBSE X)** — **Apr. 2008 — Mar. 2018**
Jawaharlal Nehru School, Bhopal | Score: 76%

## Technical Skills

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|---|---|
| **AI/ML** | Tensorflow, Keras, PyTorch, CNNs, RNNs, YOLO, Scikit-Learn |
| **Data Science** | Pandas, NumPy, Hypothesis Testing, Time Series Analysis, Feature Engineering |
| **Programming** | Python, SQL |
| **Visualization** | Matplotlib, Seaborn, Plotly, PowerBI |
| **Tools** | Git, GitHub, VS Code, Google Colab, Jupyter Lab, IntelliJ IDEA |

## Publications

1. **Patel, H.** Cross-Cultural Music Emotion Recognition: A Contemporary Review of Multimodal Methods and Datasets. *Manuscript under peer review at iCONECCT-2025* (Decision: Sep-Oct 2025).

## Professional Certifications

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|---|---|---|
| **2024** | NPTEL - IIT Madras | **Data Science for Engineers** |
| | NPTEL - IIT Kharagpur | **Artificial Intelligence for Economics** |
| | Coursera - Imperial College London | **Mathematics for Machine Learning: Linear Algebra** |
| **2025** | NPTEL - IIT Guwahati | **Introduction To Queueing Theory** |

## Projects

**Clinical Diabetes Risk Assessment with Interpretable Machine Learning** | **GitHub** | **Live Demo**

- Achieved **81% recall** in diabetes prediction by developing a SHAP-interpretable Random Forest model with optimized thresholds (AUC: 0.81), identifying glucose levels and BMI as top risk factors
- Built and deployed an interactive **Streamlit dashboard** featuring real-time risk visualization and clinical recommendations, handling 49% missing data through biologically-aware imputation
- **Tech:** Python, Scikit-learn, SHAP, Streamlit

**Happiness Insights 2020** | **GitHub** | **Live Demo**

- **Developed an interactive Streamlit dashboard** analyzing COVID-19's impact on happiness across 153 countries, using Python (Pandas, NumPy, Scikit-learn) to identify social support as 28% more critical than GDP through SHAP analysis and predictive modeling (Random Forest, $R^2$=0.65).
- **Engineered feature interactions and visualized insights** with Plotly/Seaborn, deriving policy recommendations for crisis resilience; deployed solution on Streamlit Cloud with full CI/CD pipeline.
- **Tech:** Python, Pandas, NumPy, Scikit-learn, Streamlit, Plotly, Seaborn, SHAP, Pycountry

## Leadership Experience

**Technical Committee Head | ISTE Students' Chapter - MITS** — **Oct. 2022 — Mar. 2025**
Directed 40+ member technical team; executed 25+ national/state events (400+ attendees) via design systems, cross-functional logistics, and stakeholder management.

**Design & Branding Head | GeeksforGeeks Campus Chapter - MITS** — **Aug. 2023 — Aug. 2024**
Established inaugural chapter's brand identity and visual systems (graphics/motion/video) while co-leading event strategy for 400+ participant engagements.

**Design & Branding Head | Film & Photography Club - MITS** — **Mar. 2022 — Mar. 2024**
Led creative direction for on/off-campus photography events and promotional collateral.