

Raj Pandey

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Portfolio:

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Summary

B.Tech Computer Science and Engineering student with a Minor in Machine Learning, skilled in Python, C++, SQL, TensorFlow, and Scikit-learn. Experienced in developing end-to-end projects across Machine Learning, Computer Vision, Web Development, and IoT/Arduino systems. Strong problem-solving mindset with achievements like a 100-day LeetCode streak and multiple deployed projects, including a portfolio website, book club platform, and IoT-based counter system. Passionate about building innovative, real-world solutions that merge software, ML, and hardware.

SKILLS SUMMARY

- **Languages:** Python, C++, SQL, HTML, CSS, JavaScript
- **ML/DL Frameworks:** TensorFlow, PyTorch, Scikit-learn, Keras, NLTK
- **Data Tools:** Pandas, NumPy, Matplotlib, MySQL, MongoDB
- **IoT/Embedded Systems:** Arduino UNO, IR Sensor, DHT11, TM1637 Display, LDR, Ultrasonic Sensor
- **Platforms/Tools:** Git, GitHub, Google Colab, Jupyter Notebook, VS Code
- **Frameworks:** TensorFlow, PyTorch, Scikit-learn, Keras
- **Tools/Platforms:** MySQL, MongoDB
- **Soft Skills:** Leadership, Problem-Solving, Critical Thinking, Team Player, Project Management, Adaptability

PROJECTS

Sentiment Synergy: Blending ML Models for Enhanced Analysis (Mar 2024)

Built a sentiment analysis model classifying tweets using Logistic Regression, Naïve Bayes, and Neural Networks. Applied NLP preprocessing (tokenization, stopword removal, TF-IDF). Evaluated with accuracy, precision, recall, and F1-score.

Tech: Python, Scikit-learn, TensorFlow, NLTK, Pandas, Matplotlib

Impact: Boosted classification accuracy with hybrid models.

TouriCast: Predicting Tourism Demand

Developed regression model for tourism demand forecasting from historical data. Feature engineering, trend visualization, model evaluation.

Tech: Python, Pandas, Scikit-learn, Matplotlib

Impact: Improved demand forecasting accuracy.

BovEye: Animal Behavior Prediction (Ongoing)

Processed accelerometer dataset for animal activity recognition. Built ML pipeline with preprocessing, segmentation, and model training.

Tech: Python, Pandas, NumPy, Scikit-learn, TensorFlow

Impact: Supports precision livestock farming.

Book Club Web Application

Collaborative platform with login, reading list, discussions, chat reactions, dark/light mode, and profile uploads.

Tech: HTML, CSS, JavaScript

Impact: Increased engagement with interactive book discussions.

Personal Portfolio Website

Responsive portfolio website deployed via GitHub Pages showcasing projects and skills.

Tech: HTML, CSS, JavaScript, GitHub Pages

Impact: Built professional online presence.

Arduino-based IoT Smart Counter

IoT system with IR sensor, DHT11, TM1637 display, buzzer, and push button for real-time monitoring and alerts.

Tech: Arduino UNO, C++, Sensors

Impact: Demonstrated IoT + ECE integration.

ACHIEVEMENTS

- Completed 100-day streak of daily problem solving on LeetCode (Jan 2024)
- Deployed personal portfolio website using GitHub Pages
- Built IoT smart counter integrating Arduino and sensors
- Taught Physics on YouTube, demonstrating communication and teaching skills

- Explored ML + IoT + ECE combo projects, showcasing interdisciplinary innovation

CERTIFICATIONS

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|--|--------------|
| • Social Networks - by NPTEL | January 2024 |
| • Compiler Design - by NPTEL | August 2024 |
| • Python Course For Beginners: Mastering The Essential - by SCALER | January 2025 |

EDUCATION

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|--|---|
| <ul style="list-style-type: none">• Lovely Professional University
<i>Bachelor of Technology - Computer Science and Engineering(Minor in Machine Learning);</i>
Favorite Courses: Object Oriented Programming, Data Structures, Machine Learning, AI | Punjab, India
Since August 2022 |
| <ul style="list-style-type: none">• Delhi Public School
<i>Intermediate; Percentage: 68%</i>
Favorite Courses: Physics, Chemistry, Mathematics | Muzaffarpur, Bihar
April 2018 - March 2020 |
| <ul style="list-style-type: none">• Harihar Singh Academy
<i>Matriculation; Percentage: C G P A : 8.8</i> | Varanasi, UP
April 2016 - March 2018 |