

# SAMARTH KR PANDEY

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## Summary

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Aspiring Machine Learning practitioner focused on Natural Language Processing. Hands-on work building applied ML pipelines involving data preprocessing, model training, evaluation, and basic deployment using Python and Flask.

## Skills

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**Programming:** Python, C++ (basic)

**Machine Learning:** Supervised Learning, Classification, Regression, Feature Engineering, Model Evaluation Metrics

**Deep Learning:** Neural Networks (fundamentals), CNN architecture basics, PyTorch (basic)

**NLP & Information Retrieval:** Text Preprocessing, TF-IDF, Bag of Words, Sentiment Analysis, Text Similarity

**Systems & Deployment:** Flask (Model Serving), REST APIs, Git, Jupyter Notebooks

**Data Handling:** Data Cleaning, Preprocessing Pipelines, NumPy, Pandas

## Projects

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### Personalized Medical Recommendation System — Python, Scikit-learn, Flask

- Designed an end-to-end machine learning system for symptom-based medical recommendations.
- Implemented data preprocessing, feature encoding, model training, and evaluation using supervised learning algorithms.
- Integrated the trained ML model into a Flask-based web application for real-time inference.

### Document Search System (Information Retrieval) — Python, NLP

- Developed a document retrieval system to improve semantic search over text collections.
- Implemented document chunking, vector representation, and ranked similarity matching.
- Designed a retrieval workflow returning the most relevant document segments for a query.

## Academic & Project Experience

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### Applied Machine Learning & NLP Projects

2024 – Present

*Self-Directed*

- Built end-to-end machine learning projects involving data preprocessing, feature engineering, model training, and evaluation.
- Implemented NLP pipelines for text processing, similarity search, and sentiment analysis using classical ML techniques.
- Integrated trained models into lightweight Flask applications for basic inference and experimentation.

## Certifications

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- **Machine Learning with Python** — IBM (Coursera)
- **Deep Learning with PyTorch** — IBM (Coursera)
- **Generative AI and LLMs: Architecture and Data Preparation** — IBM (Coursera)
- **Fundamentals of Deep Learning** — NVIDIA (NVIDIA Learn)

## Education

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Thapar Institute of Engineering & Technology

Expected 2027

*Patiala, Punjab*