

# Prajval Mathur

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US Citizen

## EDUCATION

**Texas Tech University**, Lubbock, Texas

2021- 2025

*Whitacre College of Engineering*

*Majoring in Bachelor of Computer Science*

*Presidential Merit Scholarship*

## PROJECTS

### AI vs Human Text Detection Projects

2025

- Built multiple machine learning pipelines to classify human-written vs AI-generated text using Python, scikit-learn, and NLTK.
- Developed and optimized SVM, Decision Tree, and AdaBoost classifiers, leveraging GridSearchCV and cross-validation for hyperparameter tuning.
- Made comprehensive preprocessing pipelines, including tokenization, stopword removal, stemming, and vectorization for feature extraction.
- Created a Streamlit web app to deploy the models, enabling real-time predictions and visualization of model outputs.

### Chatbot development using MERN stack

2024

- Collaborated with a team of five to develop a chatbot using the MERN (MongoDB, Express.js, React, Node.js) stack.
- Designed and implemented key backend functionalities, enabling smooth communication between users and the chatbot.
- Managed state and UI interactions in React to ensure a seamless user experience.

### Voting System Development

2023

- Developed a Java-based voting system modeled on US elections.
- Designed and implemented the core architecture of the system, including key classes, methods, and constructors, ensuring logical functionality and efficiency.
- Developed methods for ballot creation, and vote tallying, employing encapsulation and inheritance principles.
- Delegated specific coding tasks to team members to ensure efficient collaboration and fair contribution from each member.
- Conducted rigorous testing and debugging to ensure the reliability and accuracy of the voting system.

### Data Analysis and Visualization Project

2021

- Collaborated with a team to analyze and interpret a complex data set using Pandas.
- Utilized Python to effectively represent and visualize the data, making it easier to analyze and understand.
- Focused on creating meaningful data visualizations to present useful insights to potential clients.
- Gained valuable experience in teamwork, data representation, and client-oriented data presentation.

## SKILLS

- **Frontend:** React.js, HTML, CSS, JavaScript
- **Backend:** Node.js, Express.js, Python, Java, C
- **Database:** MongoDB, SQL
- **Object-Oriented Programming:** Java, Python
- **Machine Learning:** scikit-learn, NLTK, Streamlit, pandas, NumPy
- **Tools & Technologies:** Git, VS Code, Jupyter, Windows OS, Microsoft Office Suite
- **Advanced Problem-Solving Abilities:** Exceptional at identifying issues, analyzing potential solutions, and implementing effective resolutions.
- **Adaptability to New Technologies and Concepts:** Quickly grasps and integrates new information and technologies, ensuring continuous improvement and innovation.
- **Effective Team Collaboration:** Excel at working within diverse teams, contributing positively to group dynamics and achieving common goals.