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Crime Data Analysis Against Women and Girls in India

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Abstract: *Crime is a critical issue that poses a serious threat to public safety and national development. As crime rates increase across various regions, the need for intelligent systems to detect patterns and predict potential threats becomes essential. This project focuses on the analysis and prediction of crime using Python and machine learning algorithms. The dataset provides comprehensive crime records across different states, genders, and time periods. The project involves multiple stages, including data preprocessing, exploratory data analysis (EDA), visualization, and the application of supervised machine learning techniques. Random Forest and Support Vector Machine (SVM) algorithms are implemented to classify and predict crime occurrences based on selected features. In addition, Python libraries such as Pandas, Seaborn, Matplotlib, and Scikit-learn are utilized for data handling, statistical analysis, and graphical representation. The results provide deep insights into crime trends and help identify hotspots and recurring patterns. The machine learning models enhance the project's practical utility by enabling crime prediction with a high degree of accuracy, thus supporting law enforcement agencies in proactive crime prevention and decision-making.*

Keywords: Crime Data Analysis, Machine Learning, Python, Random Forest, Support Vector Machine (SVM)

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