SIMATS ENGINEERING

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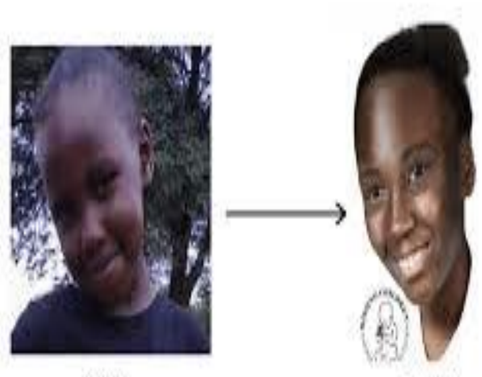
Role Of Artificial Intelligence In Solving Missing Persons Using K-Nearest Neighbor Algorithm and Comparing with Random Forest Algorithm

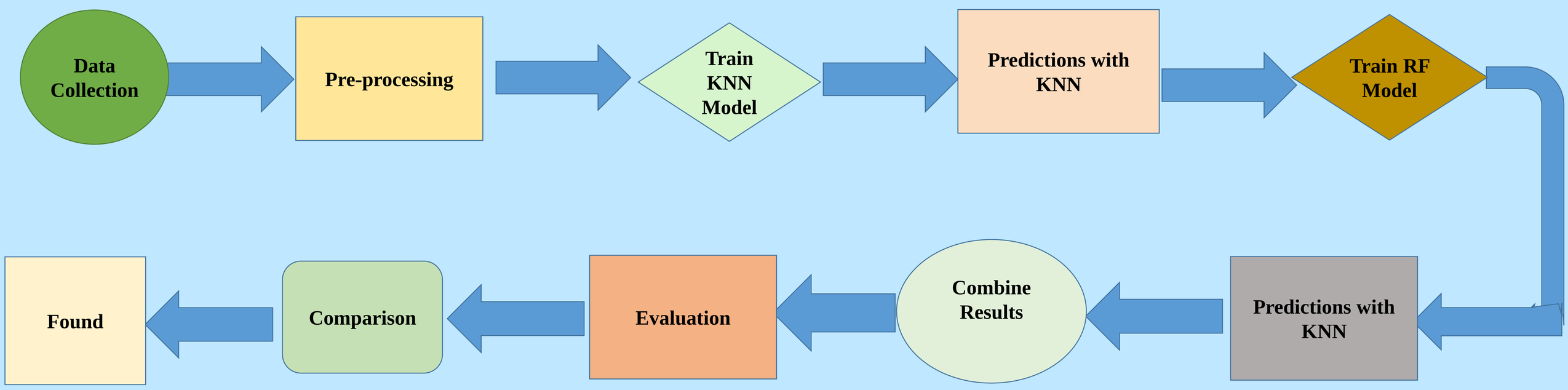
INTRODUCTION

- The advent of sophisticated algorithms and advanced data analytics techniques, law enforcement agencies and humanitarian organizations now have powerful tools at their disposal to expedite search and rescue operations, ultimately leading to increased chances of successful outcomes and it can match images of missing persons
- The K-Nearest Neighbor algorithm operates on the principle of proximity, where it classifies a given data point based on the classes of its nearest neighbors in the feature space. KNN can be utilized to predict the likelihood of a person being located in a certain area based on the characteristics of previous missing persons cases and their geographical locations..
- Random Forest algorithm is an ensemble learning method that constructs a multitude of decision trees during training and outputs the mode of the classes (classification) or mean prediction (regression) of the individual trees.
- AI technologies in missing persons cases, emphasizing the importance of responsible and transparent implementation to ensure fairness, accountability, and respect for individual rights and privacy
- AI algorithms can analyze Patterns, Finger Prints and it can match images of missing persons can analyze Patterns, Finger Prints



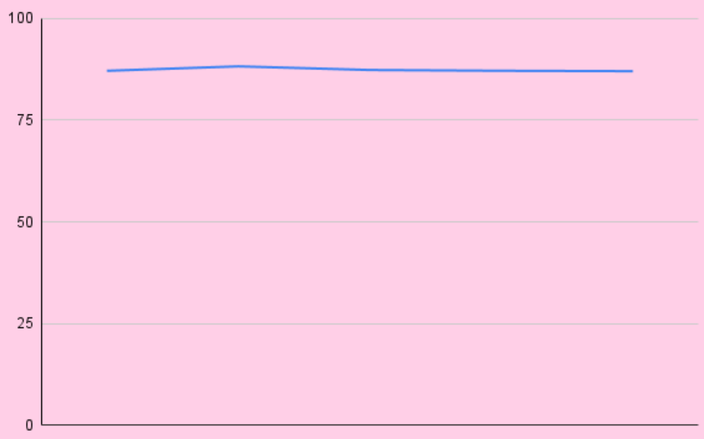
Finding Missing Persons using AI

MATERIALS AND METHODS



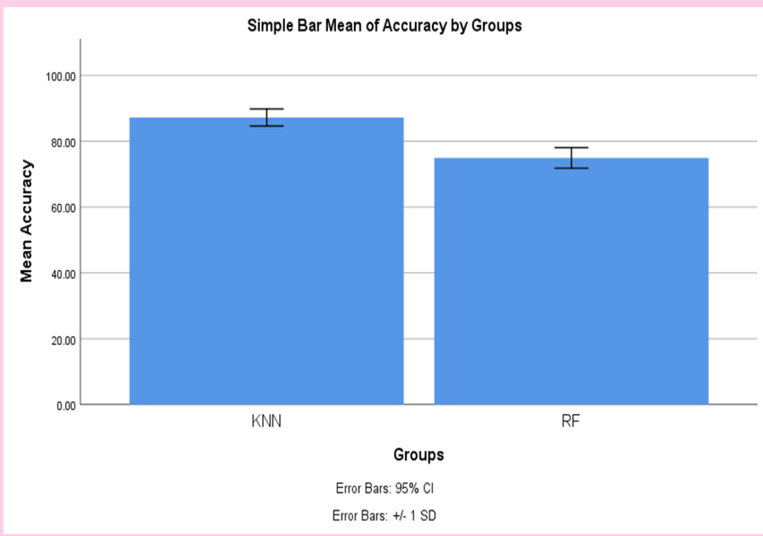
Block Diagram for finding Missing Persons using KNN And RF

RESULTS



KNN Mean Accuracy

RF Mean Accuracy



KNN AND RF Mean Accuracy

DISCUSSION AND CONCLUSION

- The K-Nearest Neighbor algorithm is compared with the algorithm to predict the future missing persons using Ai
- To match surveillance camera realtime video footage with facial images of people who have gone missing
- By performing the experiment KNN algorithm has achieved an accuracy of 87.20% and RF memory has achieved an accuracy of 74.92%
- The significance value for this research is found to be p= 0.001 after performing the Independent samples T-test analysis
- Practical applications and success stories demonstrating the efficacy of KNN in aiding law enforcement agencies in locating missing individuals.
- AI algorithms can analyze large datasets and extract meaningful insights to guide search efforts and prioritize areas

Presents the Statistical Analysis Results of the KNN Algorithm and the RF Algorithm

	Algorithm	N	Mean	Std.Deviation	Std.Error Mean
ACCURACY	KNN	10	87.2000	2.5884	1.1575
	RF	10	74.9200	3.1231	1.3967

BIBLIOGRAPHY

- Abhinay Chaukade, “Finding And Matching the Lost Victim Using AI and ML” International Journal for Research in Applied science and technology, 2022.
- D.J. Samatha Naidu , R. Lokesh, “Missing Child Identification System using Deep Learning with VGG FACE Recognition Technique” SSRG International Journal of Computer Science and Engineering, 2022.
- G. Srikanth, Adurti Swarnalatha ,Thalari Abhishek , Ravula Sai Akhil Patel ,Thalari Swamy,” Missing Person Identification using Machine Learning with Python”, International Journal for Research in Applied Science & Engineering Technology, 2022