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# DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
# II-II RESEARCH/SOCIETAL PROJECT ABSTRACT

**Date: 01/03/2025**

**TITLE OF THE PROJECT** -WEATHER PREDICTION
**DOMAIN OF THE PROJECT** -MACHINE LEARNING
**BATCH NUMBER** - BATCH 14
**YEAR & SECTION** - II-II(D-SEC)
**PROJECT GUIDE NAME** - M HARI PRASAD



| ROLL NUMBER OF THE STUDENT | NAME OF THE STUDENT |
|---|---|
| 23VE1A05K3 | ADARSH P R |
| 23VE1A05N0 | MALOTHU SIDDHU |
| 23VE1A05R3 | VALLURI NAGESHWARI |
| 24VE5A0521 | ENJETI DEEPTHI |



**ABSTRACT** – WEATHER PREDICTION

Weather prediction is a crucial scientific process that involves forecasting atmospheric conditions based on the analysis of meteorological data. Advanced techniques, including numerical weather prediction (NWP), machine learning models, and satellite observations, are used to improve accuracy. Traditional forecasting relies on physical models that simulate atmospheric behavior, while modern approaches integrate artificial intelligence (AI) and big data analytics to enhance predictions. The accuracy of weather forecasts is influenced by factors such as data quality, computational power, and the complexity of atmospheric interactions. Improved weather prediction is essential for disaster preparedness, agriculture, aviation, and daily life. Despite advancements, challenges such as sudden weather changes and model uncertainties persist. Future research focuses on enhancing predictive models using deep learning, quantum computing, and real-time data assimilation to achieve more precise and reliable forecasts.

**STUDENT SIGNATURE**

**1.**

**2.**

**3.**

**4.**

**GUIDE SIGNATURE**

**PROJECT COORDINATOR SIGNATURE**

**HOD - CSE**