**ABSTRACT**

Farmer suicides have become an urgent social problem which governments around the world are trying hard to solve. Most farmers are driven to suicide due to an inability to sell their produce at desired profit levels, which is caused by the widespread uncertainty/fluctuation in produce prices resulting from varying market conditions. To prevent farmer suicides, this paper takes the first step towards resolving the issue of produce price uncertainty by presenting PECAD, a deep learning algorithm for accurate prediction of future produce prices based on past pricing and volume patterns. While previous work presents machine learning algorithms for prediction of produce prices, they suffer from two limitations: (i) they do not explicitly consider the spatio-temporal dependence of future prices on past data; and as a result, (ii) they rely on classical ML prediction models which often perform poorly when applied to spatio-temporal datasets. PECAD addresses these limitations via three major contributions: (i) we gather real-world daily price and (produced) volume data of different crops over a period of 11 years from an official Indian government administered website; (ii) we pre-process this raw dataset via state-of-the-art imputation techniques to account for missing data entries; and (iii) PECAD proposes a novel wide and deep neural network architecture which consists of two separate convolutional neural network models (trained for pricing and volume data respectively). Our simulation results show that PECAD outperforms existing state of-the-art baseline methods by achieving significantly lesser root mean squared error (RMSE) - PECAD achieves ∼25% lesser coefficient of variance than state-of-the-art baselines. Our work is done in collaboration with a non-profit agency that works on preventing farmer suicides in the Indian state of Jharkhand, and PECAD is curre.