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Kiran Kumar V

Senior Researcher (ML/AI)

SUMMARY

Machine Learning Engineer skilled in predictive analytics with 3 years of experience in creating machine learning algorithms and retraining systems and transforming data science prototypes. Consistently optimizes and improves real-time recommendation systems by evaluating strategies and testing changes using python and R. Consistently employs statistical methods and designs to yield real gains from model changes.

KEY SKILLS

Data Analytics | Statistical Modelling | Accuracy and attention to detail | Code Optimization | Classification and Clustering | Data Visualization | Spatio-temporal analysis | Machine Learning / Deep Learning Algorithms

PROFESSIONAL EXPERIENCE

AI/ML Senior Research Fellow

Jan '19 - Present
Bengaluru

Council of Scientific and Industrial Research - Fourth Paradigm Institute

- Analysis of crop production data designed a deep learning algorithm **LSTM (**Bidirectional and Stacked**)** with hyperparameters optimization.
- Predicted crop production for different crop groups with **98%** accuracy and an average of **93%** error reduction compared with traditional models (**ARIMA, SVM, ARIMAX & VAR)**
- Application of the designed algorithm to predict and forecast **ISMR** (Indian Summer Monsoon Rainfall**).**
- Part of **CNN** algorithm preparation for Land Use Land Cover (**LULC**) using TensorFlow and Keras.
- Preparing **ConvLSTM** for Spatio-temporal analysis with bias correction (Precipitation)

EDUCATION

University of Agricultural Sciences, Dharwad

Jun '16 - Aug '18

M.Sc. Agriculture (Agril. Statistics)
Dharwad, Karnataka

Graduated with **91.50%** GPA.

Courses: Descriptive Statistics, Probability Theory, Correlation and Regression, Sampling methods, Time series analysis, Statistical Inference, Designs of Experiment.

Thesis: "Study the Distribution of errors in different forecasting models for red gram price." Exponential Smoothing, ARIMA, and ANN's algorithms are used to calculate forecast errors and the K-S Normality tests carried to know error distribution. The performance of the models is validated using RMSE, MAE, and MAPE. All the analyses were carried using Excel and R-studio.

Course/Internship

Complete Analytics, Bengaluru

Sep '18 - Nov '18

Data Analyst (Predictive Modelling using R)

- Data cleaning, handling missing values, **Uni-variate** and **Bi-variate** analysis.

- **HR Attrition** (project)- measuring the employee commitment, and carefully examine the reasons for leaving.
- Build **logistic regression, decision tree** and **random forest** using **R** with an average accuracy of 79.5% (ROC)

TECHNICAL SKILLS

- **Languages**: Python, R programming.
- **Tools**: TensorFlow, Scikit-Learn, Microsoft Office, Advanced Excel/ Excel, SPSS
- **OS**: Windows, Linux
- **IDE's**: R-studio, Jupyter Notebook, Syder, G. Colab.

CERTIFICATIONS

- AI/ML using Python, by Forsk Coding School, Aug-2020
- Modern Methodologies in Statistical Data Analysis for Effective Agricultural Research, by
- ICAR, July 2020.

  Crop Modelling using ArcGIS, Esri, April 2019.
- Predictive Modelling using R, Complete Analytics, Nov 2018.

Workshops

- Participated and presented a paper in the National virtual Symposium on '**Weather and Climate Services over Mountainous Regions**' jointly organized by the North Eastern Space Applications Centre & Indian Meteorological Society.
- Completed '**30 days Internship on AI Master class**' at Pantech Prolab India Pvt. Ltd. associated with Andra Pradesh State Skill Development Corporation (APSSDC)

Field Visit and Primary Data Collection

- **Data -** Data related to agricultural fields and Crops.
- **Places -** Almora (Kosi river basin - Uttarkhand), Dharwad, Mysore, Hospet (Tungabadra basin) - India
- **Instruments -** Leica Disto meter, Plant Canopy analyzer (LAI 2200c), Soil Moisture Meter, WET Sensor, Green Seeker, Porometer, and Drone Application for precision agriculture.

Publications

- Optimizing LSTM and Bi-LSTM models for multivariate time-series prediction and performance comparision with classical statistical models. (Under review)

  Link: https://drive.google.com/file/d/1ciIOeHY_xynVs-8ObaEBQ0CE_uwJd8J1/view?usp=sharing
- Comparative performance of ANN and ARIMA models in red gram price forecasting" – Kalburagi market (APMC).

  Publication: Journal of Pharmacognosy and Phytochemistry (at 2nd National Conference on Doubling Farmers Income for Sustainable and Harmonious Agriculture)

  Link: http://www.phytojournal.com/archives/2018/vol7issue5/PartAB/7-5-241-417.pdf
- Price forecasting of red gram in Kalaburagi market of Karnataka: An exponential smoothing technique approach

  Link: http://14.139.155.167/test5/index.php/kjas/article/view/8967

ADDITIONAL INFORMATION

- **Languages**: English: working Proficient, Kannada: Native, Telugu: Elementary, Hindi: Elementary
- **Achievements:** In **2018** Achieved the best poster award for poster presentation at Post Graduate Research Conference.

In **2014** represented in the State level NSS Youth festival held at Kalaburagi.

In **2012** represented in the State level Chess tournament at Chikkamangaluru.

- **Interests:**
  - Analysis of Ph.D. and M.Sc. Research data using ML/DL methods, Decision tree, random forest, experimental designs and statistical inference, Interpretation of Data.
  - Painting and Photography.
  - Travel and listening to music

Declaration

- All the information provided by me is true to the best of my knowledge. I would be glad to provide you with any further details if required.

KIRAN KUMAR