SRIVANI INTURI

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CERTIFICATIONS & TECHNICAL SKILLS

- ✦ **Certifications:** Machine Learning for data science using MATLAB, Development of Robot in Lego Mindstorms, Signal processing and Communication systems, Signal and Image processing
- ✦ **Programming skills**: Python, MATLAB, SolarSoft, IDLE, C, HFSS
- ✦ **Technical Skills:** Data analysis, Artificial Intelligence, Statistical and Computational methods, Plasma Physics, Wireless Communication, Networks, DataStructure, Robotics
- ✦ **Data handling capability:** Analyzed 'bigdata' from ground-based observations (Very Low Frequency [VLF] Data from antenna) and High Frequency data from GPS
- ✦ **Test score:** Secured 39/29000 rank, Andhra Pradesh Post Graduate Engineering Common Entrance Test [APPGECET]

WORK EXPERIENCE

Koneru Lakshmaiah Education Foundation

Role–Project Assistant (June–Nov 2022)

Development of Machine Learning based Ionospheric Scintillations forecasting algorithms using GNSS observations.

CNRS,France

Role–Research (Dec2019-Nov2021): **Performed research on testing algorithm, analysis and Implementation using calibrated astrophysical data (in Python &IDLE)**

- ✦ Data mining and extracting usable data from valuable data sources
- ✦ Developed a statistical algorithm to now cast the solar flare in a real time using D-region ionospheric VLF data.
- ✦ Analyzed large amounts of information to find patterns and solutions
- ✦ Calibrated the data for the time shift correction
- ✦ Quantitative and Qualitative analysis to verify solar activity on ionosphere
- ✦ Applications of AI and to test and validate the algorithm.
- ✦ Analyzed and understood the time evolution of the ionosphere by monitoring the data.
- ✦ Design of Magnetic loop VLF antenna for the wireless communication from satellites.

Physical Research Laboratory, India

Role–Trainee (May-June2019): **Performed data analysis on Martian ionosphere and applied statistical and computational methods (inPython)**

- ✦ Analyzed the data and used statistical methods to determine the regular pattern in Martian Ionospheric electron densities.
- ✦ Devised methods to estimate the Martian electron density and temperature by following Maxwellian distribution function.
- ✦ Understanding the ways of losing Martian atmosphere to space.

PROJECTS:

KLUniversity

Role–Post-Graduate Researcher (June2017-Apr2019): **Projects on AI using ionospheric GPS data (In MATLAB)**

- ✦ Analyzed a single input Long Short-Term Memory (LSTM) neural network model to investigate for preliminary assessment and developed an LSTM algorithm with influencing parameters in MATLAB software to test its capabilities in detection of GPS data.
- ✦ Prediction of 3-D spatial ionospheric data using Bi-directional LSTM neural network and investigated its potential for time sequence processing
- ✦ A hybrid forecasting Deep Learning model by taking large input of GPS measured time series data
- ✦ Analyzed the data with various statistical methods to check the trends in the time series data.

Undergraduation: Projects on Robots and Circuits

✦ Developed a defense robot for detecting obstructions autonomously and reacting by opening the grippers and releasing the ball: Stromer defense Robot

✦ Constructed a robot that moves in a desired direction based on voice command: Voice based Robot

✦ Designed a circuit for a door bell that detects a person and rings autonomously: Automatic doorbell withobject detection

✦ Science investigation project: A circuit to detect the presence of a cellphone/ mobile signal not allowedin restricted areas, Mobile Signal Detector

LIST OF CONFERENCES & TRAINING SCHOOL

✦ International summer school on '*Dynamical Systems and Machine Learning approaches*', Italy, 2021

✦ A talk given on my Patent work with the international researchers on AI, 2019

✦ Presented my IEEE GRSL research paper on AI in the thesis submission meeting conducted by KLU, 2019

✦ A national level presentation on '*Emerging trends in the development of technology*' held in KITS college of engineering, India, 2017

✦ Participated National level project exhibition in Mittapalli Engineering College, 2015

PUBLICATIONS

✦ **I. Srivani,** M. Sridhar, KCT. Swamy, D. Venkata Ratnam, "Multi-class Classification of Ionospheric Scintillations using SMOTE-Super Learner Ensemble Technique", IEEE GRSL, Nov 2022, under revision

✦ Ram Sandeep, D. N. Prabhakaran, B. T. P Madhav, D. Vinay, A. Sri Hari, S. Salma, **S, Inturi**, "Sequential Nonlinear Programming Optimization for Circular Polarization in Jute Substrate- Based Monopole Antenna". In International Conference on Intelligent and Smart Computing in Data Analytics, pp.215-221. Springer, Singapore, 2021.

✦ Briand, C., **Inturi, S**., and Cecconi, B.: Hard X-ray impact on the ionosphere D-layer: new results from VLF measurements, EGU General Assembly 2021, online, 19–30 Apr 2021, EGU21-5623, https://doi.org/10.5194/egusphere-egu21-5623, 2021.

✦ Carine Briand, Mark Clilverd, **Srivani Inturi,** Baptiste Cecconi, "Role of hard X-ray emission in Ionospheric D-layer disturbances during solar flares", Earth Planets Space 74, 41 (2022). https://doi.org/10.1186/s40623-022-01598-2

✦ **I. Srivani**, G. Siva Vara Prasad and D. Venkata Ratnam*, "A Deep Learning – based Approach to Forecast Ionospheric Delays for GPS Signals"*.IEEE GRSL, 2019, Published, DOI: 10.1109/LGRS.2019.2895112

✦ T. Venkateswara Rao, M. Sridhar, D. Venkata Ratnam, P. B. Sree Harsha and **I. Srivani**, 'A Bi-directional Long Short-Term Memory-Based Ionospheric foF2 and hmF2 models for a Single Station in the Low LatitudeRegion'. IEEE GRSL, 2020, published, DOI:10.1109/LGRS.2020.3045702

✦ I. Srivani, P. Babu Sree Harsha, and I. Lakshmi Mallika, D. Venkata Ratnam, and Fang Tzu-wei, "A Bi- directional Long-Short Term Memory Deep Neural Networks for forecasting Ionospheric Delays using GPS observations, "IEEE JSTARS, May 2022, Under Revision.

PATENTS

✦ **I. Srivani**, D. Venkata Ratnam, Senior Member, IEEE, G. Siva Vara Prasad, "*Hybrid forecasting of ionospheric delays based on PCA-LSTM Deep Learning method using GPS Observations*," 2019, India Patent application Published, Application no. 201941003447 A.

EDUCATION

Koneru Lakshmaiah University (KLU); Vijayawada, India   *2017-19*
Master of Technology in Communication and RADAR systems, CGPA:9.7/10

Jawaharlal Nehru Technological University; Kakinada, India   *2013-17*
Bachelors in Electronics and Communication Engineering, Percentage:75.1