KRISHNAPRAKASH K R

Engineer, Data science and analytics

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Experience

- **Yield Engineer - Data Science and Analytics, GlobalFoundries Engineering Private Ltd, Bengaluru.** *March 2022 – June 2024*

  Developed and implemented predictive model techniques for risk prediction, early yield degradation containment and root cause analysis (RCA) on large volume test data using machine model pipelines. Delivered data-driven insights and solutions for multiple cost-saving projects.

Education

- **Master of Science** in **Physics**, University of Kerala, Thiruvananthapuram | CGPA**: 9/10**   2022

Skills

- **Data Cleaning, Manipulation and EDA:** R - dplyr, tidyr and Python - Pandas, NumPy, Matplotlib, seaborn. Dashboard development using Python streamlit and Power BI.

- **Machine learning and Deep learning**: Python: Data preprocessing, supervised and unsupervised algorithms, Scalable regression and classification models in ensemble method, pipeline automation, anomaly detection, feature engineering optimization and hyperparameter tuning.

  - **Natural Language Processing (NLP***)* – nltk - vectorization and embedding techniques.
  - **Deep learning**: TensorFlow-keras for Artificial Neural Networks - ANN, CNN image classification models and LSTM RNN for text training models.
  - MySQL for database management, Flask or streamlit for web app UI, containerization with Docker, Version control and CI/CD pipeline using GitHub, AWS EC2, Elastic beanstalk and Code pipeline.

- **Advanced Mathematics and Statistics**: Calculus in Physics, numerical methods and Statistics.

- **Development technologies:** ES6 JavaScript, HTML, CSS

Achievements

- **Publication:** *Wave perturbations in Earth's thermosphere in conjunction with X1.7 solar flare: Observational perspective***, published in Elsevier (Aug 15, 2023, Department of Physics, University of Kerala and Indian Institute of Tropical Meteorology, Bhopal.** [Python, Origin Pro and Matlab]
  https://www.sciencedirect.com/science/article/abs/pii/S0273117723006750?via%3Dihub

- Developed IYDC (Inline Yield Degradation Containment System) as part of cost saving project. The system trained with 3 years production data to detect anomalies and predict fails during early production stage itself, thus cut processing cost and scrap fails before end of line.

- Successfully completed and delivered multiple device fail clustering requests (classification of fail method help engineers to pitch in root cause analysis quickly) during year end peak production hours – enabled on time dispatch of multiple target lots.

- **Process step detection model** for root cause analysis. Model provides local interpretability to help rank parameter having most contribution in a specific failure case.
- **IYDC pipeline** for early risk prediction in large scale production environment.
- **Credit card fraud detection** streamlit web app.
- Airline price prediction web app: ML ensemble model pipeline with flask for frontend: Predicts airline price based on multiple input features.
- NLP project on Sentiment analysis
- Weather Prediction: A Python streamlit web app leveraging the Random Forest model.
- Churn prediction script: streamlit web app model trained with ANN using churn modelling dataset to predict customer churn.
- Startup funding distribution visualizer - Interactive streamlit dashboard.
- Websites: Department of Physics – University of Kerala, HTML/CSS/JavaScript/Bootstrap/Firebase.

Courses and Certifications

- Crash course in Python, Certified by Google, Coursera
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning, Coursera
- Prompt Engineering for ChatGPT, Vanderbilt University, Coursera
- Course in Cybersecurity Roles, Processes and Operating System security by IBM, Coursera
- AWS Cloud Practitioner Essentials, AWS
- Foundations of User Experience (UX) Design, Certified by Google, Coursera
- Fundamentals of Digital Marketing, certified by Google

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