Dilip Rajkumar

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Skills (IT Kompetenzen)

- **Programming Languages**: Python, R, SQL, HCL, HTML, YAML, CSS, C++ / Arduino (IDE)
- **Data Science / ML Packages**: numpy, pandas, pySpark, scipy, scikit-learn, xgboost, cvxpy
- **Deep Learning Packages**: keras, tensorflow, pytorch
- **Quantitative Analytics / Algo-Trading**: fxcmpy, QuantConnect
- **Data Visualization**: Tableau, bokeh, plotly, matplotlib
- **Cloud Computing**: Amazon Web Services, Palantir Skywise, Terraform, Docker
- **Operating Systems**: Linux, Microsoft Windows || **Office Tools**: MS Office, GSuite
- **Languages**: English (Fluent), German (Basic)

Experience (Praxiserfahrung)

Airbus Operations GmbH, Finkenwerder – *Master Thesis Student* NOV 2019 - APR 2020
Thesis Title: '*Machine Learning for an Aircraft's Cabin Air Distribution System*'

- Created a novel neural network architecture called Hybrid PINN (*Physics Informed Neural Network*) that works in tandem with FDDN (an Airbus fluid flow solver) to predict correction factors to get optimal flow rates.
- Implemented Bayesian Neural Network architectures for uncertainty measures in the restrictor predictions of the cabin air distribution system.
- Deployed CycleGANs to generate synthetic data to address the sparse training data from the lab test results and improve the restrictor predictions of the cabin air distribution system.

Airbus Operations GmbH, Finkenwerder – *Data Science Intern* SEP 2018 - FEB 2019

- Worked on the Data Analytics and Machine Learning for the ATA21-21 (Cabin Pressurization and Air Conditioning) system of the A350-900 aircraft (Primary task).
- Liaised with Data Analysts in the Zero-AOG Plateau, working on diagnostic and predictive maintenance algorithms for Aircraft on Ground occurrences, using the Palantir-Skywise Big data analytics environment.
- Participated in a 2 day (Data Science) *ADS-B Hackathon* at Airbus Leadership University, Toulouse and successfully helped my team to create a Minimum Viable Product (MVP) in Air Traffic Management.

Skylite Renewable Energy Pvt Ltd, Coimbatore – *Solar PV Engineer* AUG 2012 - AUG 2016

- Designed, Installed & Commissioned various rooftop Solar Power Systems totalling 15 kW.
- Imparted Solar Energy Training to over 200 students for Central and State Government Agencies in association with *Florance Energy Solutions Private Limited* on assignment basis, time to time.

Freelancer, Coimbatore– *3D Computer Graphics Designer* AUG 2010 - MAR 2012

- Completed 3D computer graphics design work for SriPathy Assoceates and Enviro 2011 Conference.
- Provided training services in 3D Computer Graphics to Hindusthan College of Arts and Science.

Education (Ausbildung)

- ***Saarland University,*** Saarbrücken - *M.Sc (Media Informatics)* OCT 2016 - JULY 2020
- ***Gnomon School of Visual Effects,*** Hollywood, CA - *High End Computer Graphics* SEP 2008 - JUNE 2010
- ***PSG College of Technology,*** Coimbatore - *B.E (Electronics and Communication)* JUL 2004 - APR 2008

Certifications

- ***Udacity*** *- AI for Trading Nanodegree* (Link to Verified Certificate) OCT 2020 - JAN 2021
- ***DataCamp*** *- Credit Risk Modeling in Python* (Link to Verified Certificate) DECEMBER 2020
- ***AWS Certified*** *- Machine Learning Speciality* (Link to Verified Certificate) SEPTEMBER 2020
- ***Udacity*** *- AWS Cloud Architect Nanodegree* (Link to Verified Certificate) JUNE 2020 - JULY 2020
- ***Udacity*** *- Data Analyst Nanodegree* (Link to Verified Certificate) OCT 2017 - MAY 2018
- ***Udacity*** *- Deep Learning Foundations Nanodegree* (Link to Verified Certificate) MAR 2017 - AUG 2017

Projects (https://diliprk.github.io/#projects)

Which Debts Are Worth the Bank's Effort? - *DataCamp* (Project Link) DEC 2020

- In this project, I used *regression discontinuity* , an intuitive and useful analysis method in any situation of threshold assignment and other statistical methods to assess a situation where a bank assigned delinquent customers to different debt recovery strategies based on the expected amount the bank believed it would recover from the customer.

Predicting Credit Card Approvals - *DataCamp* (Project Link) DEC 2020

- In this project, I built an automatic credit card approval predictor using machine learning techniques, just like the real banks do and used the Credit Card Approval dataset from the UCI Machine Learning Repository for training the *Logistic Regression* Model.

COVID-19 and its Global Effects - *FTL Hackathon* (2nd Place Winner) MAY 2020

Title: "Sentiment Analysis of COVID-19 related tweets and its impact on Equities"

- In this 2 day hackathon project, we performed sentiment score analysis of live and historic tweets containing various hashtags related to COVID-19, lockdown announcements and other stock market related labels and analyse its impact on historic Dow Jones Industrial (DJI) stock index.
- We showed interactive data visualizations of the COVID-19 pandemic spread across the world (eg: GIS Choropleth plots) and other interesting plots for twitter data analytics. I was responsible for most of the data visualizations and also did some data analytics, NLP work.

Machine Learning for Air Traffic Management - *ADS-B Hackathon* OCT 2018

- Implemented various Machine Learning algorithms (such as LSTMs, MLPs and XGBoost) for predicting various parameters related to Air Traffic Control such as Flight Trajectory, ETA and Runway Classification.

Smart City Visualization - *HBK Saar* (http://smartstreetlighting.herokuapp.com) APRIL 2018

- Created an online data visualization dashboard using Bokeh showing vehicle traffic and energy savings.
- Used python for Data Wrangling (from TTN Swagger API) and Analytics to determine optimal street light timings based on night time vehicle traffic, resulting in Energy Savings.

Notes

- Check out my DataCamp profile (https://www.datacamp.com/profile/s8dirajk) for full list of courses & projects that I have completed
- For Udacity nanodegree project work, please check my Github profile

Descriptive CV - Available on Request