



Ranji Raj Nair

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Social Network

YouTube Channel
Linkedin Profile
Github Profile

Languages

🇩🇪 German
🇺🇸 English

Programming Skills

✦ Python
✦ R
✦ SQL

Soft Skills

✦ Teaching
✦ Communication
✦ Analytical

Concepts

✦ K-means Clustering
✦ Linear Regression
✦ Logistic Regression

Working Experience

2016 – 2018 **QualityKiosk Technologies Pvt.Ltd.** Role: Test Engineer
Virtualization of services for various private banking applications by creating mock responses and stub creation using licensed and open source tools to test web services. Performed system monitoring to determine the performance bottlenecks through client coordination.
Responsibility: Creating a middleware in Python by using Monkey Patching technique for mock response.

Education

Study Programmes

2019 – pursuing **Master Studies** Otto von Guericke University
Focus: Data and Knowledge Engineering
2012 – 2016 **Bachelor Studies** Datta Meghe College of Engineering
Focus: Information Technology

2000 – 2012 **Primary and Secondary Schooling** SIO's Vani Vidyalaya

Projects

Master-Voluntary Task Global Pandemic Predictor - a simple linear regression machine learning model for predicting the total cases of pandemic from OWID dataset. Built using Python libraries (Pandas, NumPy, Statsmodels, Pickle, Matplotlib, Seaborn). Model is further represented as a Flask Web Application with a backend database connectivity to SQLite3 using SQLAlchemy. Later deployed to Heroku PaaS on Cloud Platform (Webserver used: Waitress, Version control: git bash). As an alternative also Dockerized this application to decommission the need of storing onto local setup or virtual environment.
Master emojioto - a simple example application containing three dockerized microservices and a website. Website illustrating list of emojis you can vote for and a leaderboard with the emojis with the highest votes with the full-fledged application running on SysEleven cluster.(Application environment was on Linux, Ubuntu 18.04 distribution. Kubernetes components used: Ingress, Helm, Pods, Deployments, Services, Horizontal Pod Autoscaler)
Master Android application to detect morphed passport images. (Development of Android application called 'Demorpher' which takes the user image and compares with a pre-existing morphed image. The resultant would produce the demorphed image with matching accuracy.)

Research Papers

2020 **Android Application for detecting morphed passport images**
Otto von Guericke University
Demonstrating how a live image of the user face acquired at uncontrolled environment, can be used to restore the de-morphed image from the morphed image stored in the travel document.
2019 **Bio-metric benchmark based on Handwriting and Hand Geometry Modalities**
Otto von Guericke University
Identification of inter-class and intra-class variance including the impact of forgeries concerning security aspect.

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Other Competencies

✂ Machine Learning	● ● ● ●
✂ Deep Learning	● ● ● ●
✂ Heroku	● ● ● ●
✂ Tensorflow	● ● ● ●
✂ Linux	● ● ● ●
✂ Docker	● ● ● ●
✂ Kubernetes	● ● ● ●
✂ Git	● ● ● ●
✂ Scikit-learn	● ● ● ●
✂ Flask	● ● ● ●
✂ Jupyter Notebook	● ● ● ●
✂ statsmodels.api	● ● ● ●

Publications

2018	Computer Organization and Architecture <i>TEK97</i> Book on Microprocessor Architecture and Techniques
2018	Analysis of Algorithms <i>TEK97</i> Book on common data structure algorithms
2017	Structured Programming Approach <i>TEK97</i> Book on Basic C language practices
2017	Operating Systems <i>TEK97</i> Book on internals of OS

Certifications

2020	Time Series Analysis with R Basics of time series analytics, Approaches used for Time Series forecasting, Decomposition Method, Irregularity in decomposition, Model Forecast theory, Exponential Smoothing function.	Great Learning Academy
2020	Introduction to R Programming Basics of tibble, vectors, matrices, ggplot2, and other data visualizations.	Udemy
2019	Introduction to Python Programming Writing code using PEP8 standard, Basics of python data types and data structures, NumPy, Pandas, Matplotlib, Seaborn, Object-oriented concepts in Python.	MySirG.com