Mohammed Raees MK

Bangalore, India 🌐 *mkraees.github.io*
raeesug@gmail.com ⭘ in

Education

Indian Institute of Science (IISc), Bangalore, India *July 2015 - July 2020*
Integrated Bachelor of Science (Research) + Master of Science

Biology & Physics. Research Focus: Computational Neuroscience & Neuromorphic Computing

Work Experience

TallyAI team — Tally Solutions Pvt. Ltd *Jun 2022 - Present*
Data Scientist 1

- Information Extraction from Form-Like Layouts: Developed a system leveraging BERT and Tesseract OCR to extract key-value pairs from diverse B2C invoices.
- Chatbot for Software Help Website: Implemented a responsive chatbot using a fine-tuned OpenAI GPT model, offering immediate, automated support.

Corporate Analytics team — Tally Solutions Pvt. Ltd *Aug 2020 - Jun 2022*
Associate Data Scientist

- Customer Churn Prediction: Leveraged the BG-NBD model to predict customer churn in the UAE region with a prediction accuracy of 0.92.
- Sales Forecasting: Utilized the Prophet model to forecast new license activation and subscription of the software, achieving accuracies of 0.87 and 0.85 respectively.
- Subscription Renewal Propensity Modeling: Employing xGBoost, developed a model to identify customers with the highest likelihood to renew subscriptions, enabling prioritized outreach and resulting in a 20% increase in subscription.

Research Experience

Neuro-electronic Hybrid System for Sound Classification *August 2019 - Dec 2022*
Developed a prototype integrating a neuromorphic cochlea with biological neurons for sound classification tasks, achieving promising classification accuracy in simulations.

Gamma Harmonics in response to Chromatic Stimuli in Monkey V1 *May 2018 - April 2019*
Analyzed gamma harmonics in the macaque primary visual cortex induced by chromatic stimuli, revealing a consistent phase relationship between gamma and its first harmonic

Technical Skills

Programming	: Python, C++, R, MATLAB, BASH, MySQL
Machine Learning	:Tensorflow, PyTorch, Scikit-Learn, OpenCV
Web Development	: HTML, CSS, JS; Django, Flask & React (Web frameworks)
Microcontroller	: Arduino, Raspberry Pi
GUI Automation	: PyWinAuto, Selenium

Publications

Krishnakumaran R, **Raees M**, Ray S (2022). *Shape analysis of gamma rhythm supports a superlinear inhibitory regime in an inhibition-stabilized network.* PLoS Comp. Bio.

Key Skills

Research. Scientific Communication. Mathematical Modelling. Statistical Analyses and Inference. Predictive Modeling. Deep Learning. Natural Language Processing. Large Language Models - LLM. Prompt Engineering. Generative Models. Computer Vision. Signal Processing. Image Processing. GUI and Shell Automation & Web Scraping