VENKAT GOPINATH

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EDUCATION:

- **M.Sc. Data Science and Analytics,** University of Leeds, UK **Sept 2023**
  Subjects/Grade: Statistical Theory and Methods - **Merit** Statistical Learning - **Distinction**
  Programming for Data Science - **Distinction** Data Science - **Merit**

- **B. Tech in Electronic Communication Engineer,** Amrita Vishwa Vidyapeetham**.** **July 2021**
  Subjects/Grade: Probability and Random Process - **Distinction** Optimization Techniques - **Distinction**
  Linear Algebra - **Distinction** Calculus and Matrix Algebra - **Merit**
  Vector Calculus and Ordinary Differential Equations - **Distinction**

TECHNICAL SKILLS:

Area: Machine Learning, Deep learning, Business Analytics, Data Visualization, Data Pipeline, Statistical Modelling, SQL.
Python Libraries: Web scrapping, NumPy, Panda, Scikit-learn, Beautiful Soup, Seaborn, Matplotlib.
R libraries: tidyverse, dplyr, ggplot22, tidyr, readr, etc.
Cloud Technologies: Google cloud console, AWS, Azure, BigQuery, AutoML, ETL, ELT.
Tools and Software: Excel, Power BI, Tableau, Qlik View**,** MySQL, Vertex AI.

INTERNSHIPS AND WORK EXPERIENCE:

***Associate Engineer,* Ericsson Global, Delhi, India** **Apr 2022 – Aug 2022**
*Test coordinator – **MELA United Kingdom** department*

- **Developed and executed** 100+ test cases for **Incident management, Change management, Problem management, and Knowledge error**, which helped to ensure the quality and reliability of the BMC Remedy tool.
- Identified and reported a critical bug in the **BMC Remedy tool**, which the **3UK, EE, and MBNL** developers fixed within 24 hours.
- Coordinated the testing of a new BMC Remedy tool release, which resulted in a **99% defect-free release**.

***Associate Engineer Trainee* Ericsson Global, Delhi, India** **Oct 2021 – Apr 2022**
*Engineer - **BMAS, TELUS, ITSM** (Information Technology Service Management) department*

- Completed around **325 TSR** (Telus service request).
- Performed **testing of upgraded ITSM software** after upgrading to the **20.0 version** for three different environments. Also performed a variety of testing tasks, including loading data using User Data Management module in ITSM platform.
- Provided **maintenance and day-to-day support** for BMC Remedy ITSM Tool and wireline remedy tool under **Telus Organisation Canada**. Resolved **35 Incident** tickets and closed **9 Change management** tickets.

***Intern,* German Presentation & Communication Systems, Abu Dhabi, UAE** **Dec 2020 – Jan 2021**

- IP Camera Installation & Configuration: Proficiently **installed and configured** IP cameras, strictly **adhering to authority regulations**, ensuring robust surveillance systems.
- Site Survey & CAD Expertise: Conducted **meticulous site surveys**, employing Automatic **Computer Aided Design (CAD) tools** to optimize camera placement and coverage

***Catering Assistant (Part-time),* Westward Care Ltd – Care Home, Leeds, United Kingdom** **Mar 2023 – Present**

- Food Preparation: Assisted in preparing meals, adhering to dietary requirements and portion control, while **maintaining high standards of hygiene** and food safety.
- Serving and Plating: Helped in serving meals to residents, **ensuring prompt and courteous service**, and arranging food in an appetizing manner for an enjoyable dining experience.
- Assisting Residents: Provided **compassionate assistance to residents** during meal times, catering to their specific needs and preferences, and ensuring their comfort and satisfaction.

PUBLICATIONS:

Title : **Optimal hyperspectral band selection using robust multi-verse optimization algorithm** **(Publication)**
Journal: **Springer Journal Multimedia tools and Applications**

1. Utilized Multi-Verse Optimizer (MVO) algorithm for optimal band selection of hyperspectral images, reducing data redundancy and dimensionality.
2. Compared performance of MVO with **Particle Swarm Optimization** (PSO)**, Hybrid PSO-MVO** (HPSO-MVO) and **Sparrow Search Algorithm** (SSA) in terms of execution time and convergence analysis.
3. Achieved improved hyperspectral band selection effectiveness through proposed fusion of PSO-MVO algorithm.

4. Classified selected bands using **Random Forest** (RF) and **Support Vector Machine** (SVM), achieving average accuracy of **92.5**% with SVM using MVO.
5. Demonstrated MVO's optimal band selection for hyperspectral images, outperforming PSO, HPSO-MVO and SSA, for potential use in agricultural applications.

CERTIFICATIONS:

1. **Data Engineering, Big Data, and Machine Learning on GCP** Credential
   Offered by: **Google**
   Skills: **BigQuery**, Google Cloud console, **Qwillabs**, Google Cloud Platform, **Cloud Computing**, ETL, ELT, Data Lake, **Kubernates, SQL,** Snowflakes**, Apache spark,** Looker**.**
   Outcomes:
   - Developed a comprehensive **understanding of data-to-AI processes**, enabling effective **utilization of Google Cloud's big data and machine learning solutions**.
   - **Implemented efficient streaming pipelines** that facilitated seamless data flow and real-time data processing, resulting in up-to-date insights and improved **data-driven decision-making**.
   - Gained insights into the **different tools and technologies on Google Cloud**, enabling informed decisions in selecting the most suitable approach for **machine learning projects**.
   - Implemented an end-to-end machine learning pipeline leveraging **Vertex AI and AutoML**, streamlining the development and deployment of machine learning models, leading to **accelerated model delivery** and improved model performance.

2. **Google Data Analytics Professional Certificate** Credential
   Offered by: **Google**
   Skills: **SQL**, Job portfolio, Data Cleansing, **Data Analysis**, Data Visualisation (DataViz), **Metadata**, Data Collection, Data Ethics, SQL, **Data Calculations**, Data Aggregation, **R Programming**
   Outcomes:
   - Attained an in-depth understanding of the **roles and responsibilities of a junior data analyst**, laying the foundation for effectively carrying out similar tasks.
   - Developed proficiency **in critical analytical techniques** and gained hands-on experience with widely used data **analysis and visualisation tools**.
   - Demonstrated the ability to **effectively clean and prepare data for analysis**, conducted insightful data analysis, and conducted calculations using different data analysis tools.
   - Mastered the art of data visualisation, enabling effective **communication of data insights** to stakeholders through visually **appealing dashboards and presentations**.

3. **Microsoft Azure for Data Engineering** Credential
   Offered by: **Microsoft**
   Skills: SQL, Microsoft Azure, **Data Security**, Information Engineering, Cloud Data Solutions, **Data Warehousing**
   Outcomes:
   - Explored and familiarized with diverse data platform technologies to **optimize organizational operations and maximize benefits.**
   - Identified and evaluated appropriate **Microsoft Azure data technologies** tailored to specific business needs, ensuring secure scaling to handle increased demands.
   - **Communicated and documented** common data engineering practices, streamlining data pipelines and enhancing overall efficiency.
   - Analyzed and highlighted key distinctions between **on-premises and cloud data solutions**, guiding informed decision-making in data architecture.

4. **Data Science: Foundations using R** Credential
   Offered by: **Johns Hopkins University (USA)**
   Skills : Data Science, Machine Learning, **Github, R Programming**, Exploratory Data Analysis, **Rstudio**.
   Outcomes:
   - Informed decision-making and **improved data-driven strategies**.
   - Enhanced research integrity, **producing trustworthy findings** and fostering confidence in data-driven conclusions.
   - Improved project efficiency, **enhanced team collaboration**, and simplified project tracking, leading to successful project completion.

5. **Excel Skills for Business** Credential
   Offered by: **Macquarie University (Australia)**
   Skills: **Data Validation**, Microsoft Excel, **Microsoft Excel Macro**, Pivot Table, Data Cleansing
   Outcomes:

- Enhanced data handling efficiency, **ensuring accurate data representation** and improved overall data management.
- Employ formulas and functions to **perform precise calculations** on data. Automate data lookups
- Improved data visualization and interpretation, enabling stakeholders to **grasp insights quickly** and make data-driven decisions confidently.
- Enhanced spreadsheet usability**, minimized data errors**, and facilitated efficient data exploration, leading to improved productivity and data integrity.

PROJECTS :

1. **Exploring Predictive Models on Effective Sentencing on Serial Killers with R programming:**
   - Conducted Data Understanding, **Preprocessing**, Feature Extraction, and **Model Development**.
   - Employed **Logistic, Poission, Negative Binomial Regression and Decision Tree algorithms**, evaluating accuracy metrics.
   - Applied **modern DevOps principles** for model development and evaluation.

2. **Text Classification and Analysis of 2,000+ News Articles:**
   - Leveraged Cloud **Natural Language API** and **BigQuery** for large-scale text analysis of over 2,000 news articles.
   - Developed a Python script to categorize BBC news articles into **700+ distinct categories** using the Cloud Natural Language API.
   - Stored the classification data in BigQuery and conducted **in-depth analysis** to determine the frequency of categories, allowing for easy retrieval of articles based on category and confidence score. This integration of API and BigQuery enhanced the capabilities for **extensive text analytics**.

3. **Predicting the Successful Initial Coin Offering using Machine Learning Models:**
   - Employed data cleaning techniques and **feature engineering** for dataset preparation.
   - Developed and evaluated machine learning models, including **Random Forest,** to predict **ICO success**.
   - Leveraged **R and Python**, along with packages like randomForest, for **model development** and evaluation.

4. **Optimal Warehouse Expansion: A Multi-Criteria Decision Analysis (MCDA) Approach Using AHP and TOPSIS:**
   - Utilized **AHP and TOPSIS** for evaluating and recommending the best warehouse expansion option.
   - Considered **key criteria** such as public transport, parking, warehouse space, security, and cost.
   - Applied finance and business analytics, incorporating **decision science and optimization techniques**.

6. **Road Safety Data Analysis:**
   - Conducted **exploratory analysis on** road accident data provided by **GOV.UK** data, identifying casualty **demographic patterns**.
   - Analyzed accidents with tools like **Tabulae and Python,** resulting in killed or seriously injured casualties **across local authorities**.
   - Focused on patterns related to pedestrian casualties, **providing insights** for road safety improvement strategies.

7. **End-to-End Analysis and Visualization of Agriculture Data:**
   - Conducted data cleaning, preprocessing, and merging for agriculture data analysis of **FAO(Food and Agriculture organization)**.
   - Utilized Matplotlib, Seaborn, **GeoPandas**, Panel, and **Hvplot** for visualizing **land use and production trends**.
   - Created interactive **geospatial visualizations** of greenhouse gas emissions and agricultural trade patterns, **aiding decision-making** and sustainability efforts in agriculture.

EXTRA-CURRICULAR ACTIVITIES:

- Engaged in meaningful service as an active member of "**AUYDH**," providing assistance and **support** to orphanages, demonstrating a **commitment** to social welfare.
- Actively contributed to "**Amala Bharatam**," supporting the **Swachh Bharat** mission, and promoting **community** cleanliness and **sustainable** practices.
- Led successful "**Live in Labs: Literacy Development in Jharkhand**" project, driving **impactful** initiatives to improve **literacy** rates in the region.
- Served as **Class Representative** during the 2017-2018 academic year, effectively **representing** student interests and fostering a **positive** learning environment.

REFERENCES:

- **Available upon request**