Ramaswamy Iyappan

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Skills

Languages: Python, SQL, Git, Javascript, Java, Linux
Frameworks & Libraries: PyTorch, TensorFlow, Scikit-Learn, Numpy, Pandas
Data Platforms & Tools: PostgreSQL, Snowflake, Tableau, VSCode, MS Excel
DevOps: AWS, CI/CD, Kubernetes, Docker
Concepts: Deep Neural Networks, Data cleaning, EDA, Database & Data Warehousing, Cloud Computing
Certifications: IBM Data Science Professional, Google Data Analytics Professional, AWS Certified Developer Associate, Solutions Architect Associate & Cloud Practitioner

Education

George Mason University Jan 2022 - Dec 2023
Master of Science in Computer Science *Fairfax, VA*

Vels University Aug 2016 - May 2020
Bachelor of Science in Computer Science *Chennai, India*

Experience

Data Science Intern Jan 2023 - Dec 2023
US LBM *Dallas, TX*

- Developed **demand forecasting models** for a leading national distributor, achieving a **MAPE** of less than **20%** for over **70%** of SKUs using a **Stacking Ensemble** approach.
- Employed advanced time series forecasting methods, including ARIMA, XGBoost, and Auto Deep AR, to **forecast sales up to 1 month** ahead at various granularity levels.
- Utilized **Snowflake** for data processing, reducing the data preparation time by **30%**.
- Implemented **clustering techniques** to improve modelling time for per-instance based models and improve **MAPE** for **neural network**-based forecasts.
- Presented forecasting results to stakeholders using **Tableau**, enabling clear and actionable insights for demand planning and supply chain optimization.

Projects

Credit Card Fraud detection | *Python, Pytorch, Tableau, Ensemble modeling* Mar 2023

- Preprocessed unstructured data through EDA, resulting in a **20% improvement** in model performance
- Identified and addressed class imbalance issue, leading to a **95%** increase in minority class detection
- Implemented RandomForest ensemble learning, achieving an **AUC-PR of 0.88**, which translates to a significant improvement in fraud detection rate

Hand-written digits Prediction | *Python, PCA, t-SNE, Dimensionality Reduction* Nov 2022

- Built a **K-Means clustering** model with t-SNE visualization, achieving an accuracy of **0.86**
- Analyzed high-dimensional digit features and reduced them by **65%** using **PCA** & **t-SNE** techniques

Heart-Disease Prediction | *Python, Feature Scaling, Supervised Learning* Apr 2022

- Developed **Logistic Regression** model using Gradient Descent to predict heart-disease risk
- Addressed overfitting through **L1/L2 regularization**, leading to an **10%** accuracy improvement

Survey-form Web Application | *Angular, SpringBoot, Jenkins, Docker, SQL* Feb 2022

- Reduced deployment time by **50%**, enabling rapid and reliable updates to the **AWS EC2**-hosted application
- Implemented **Kubernetes Load Balancer** to distribute traffic across 3 pods, boosting availability to **99.9%**

Leadership and Awards

Marketing Employee of the Year, *Mason Recreation* Jun 2022 - May 2023
NCC Cadet Award, *Cleared 3 Rifle rounds* Sep 2013
Manager On Duty, *Mason Recreation*
Piano/Music Instructor *(6+ yrs)*