Ramaswamy Iyappan

Fairfax, VA 571-478-3766 riyappan@gmu.edu website ramaswamy-iyappan ramiyappan

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*
- **Relevant Coursework:** Data Mining, Machine Learning, Advanced NLP, Analysis of Algorithms, DevOps, Linear Algebra, Statistics and Probability, Web Development.

Vels University Aug 2016 - May 2020
Bachelor of Science in Computer Science *Chennai, India*
- **Relevant Coursework:** Data Structures, Software Design, Object Oriented Programming, Differential Calculus.

Experience

Graduate Teaching Assistant Aug 2023 - Dec 2023
George Mason University *Fairfax, VA*
- Instructed & facilitated the Principles of Computing course, conducted weekly office hours, assessed assignments, and provided personalized support to over 60 students for enhanced performance.

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.

MNIST Digits Classification | *Python, TensorFlow, PyTorch, Deep learning* Dec 2022
- Achieved state-of-the-art accuracy (98%) on the MNIST handwritten digits dataset using **Neural Networks**.
- Reduced validation loss by 16% through mini-batch training and **hyperparameter tuning**.

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 8% accuracy improvement and a better bias-variance trade-off.

Survey-form Web Application | *Angular, Springboot, Javascript, jQuery, Kubernetes, AWS* Feb 2022
- Built and deployed a microservices-based survey application using **CI/CD** pipeline (Jenkins & Docker) on **AWS**.
- Reduced deployment time by 40%, enabling faster feature releases and better user experience.

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)*