RAMYA KAPPAGANTU

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WORK EXPERIENCE

Data Science Instructor at Cornerstone College, Vancouver **Oct 2024 – May 2025**

- Designed and delivered curriculum on Database Management, Big Data, statistics and Machine Learning to 40+ students, focusing on real-world use cases.
- Implemented end-to-end ML pipeline covering data preprocessing and feature engineering to model training and deployment (MLflow).
- Built and demonstrated big data pipelines using Spark SQL to ingest, transform, and load 1M+ records from open datasets GTFS and NYC taxi into RedShift.
- Utilised scikit-learn to build and optimize ML models like XGBoost, SVM, Random Forest for supervised learning and DBSCAN, Isolation Forest, k-means for unsupervised learning.

Software Developer at Oracle India Pvt Ltd **Sept 2020 - Nov 2023**

- Developed data models and database-driven web applications using **Oracle database, Flask and Docker** for Oracle Container Registry service so that internal customers can manage repository images across multiple products.
- Designed and implemented multi-license support feature by building normalized data models using SQL and used Python to introduce 10+ licenses for closed source repositories.
- Implemented container search feature (like docker search) using Python, podman and Kubernetes so that internal users can search for images across Oracle Container Registry.
- Implemented multi-architecture support feature using **Python** and **SQL** so that customers can download images from the container registry based on their system architecture.
- Ensured data integrity across multiple projects by applying schema design best practices like normalization and indexing strategies. Used referential integrity constraints to impose relationships and maintain data integrity.
- Optimized query performance by employing indexing strategies like composite indexes, partial indexing based on the query pattern, which resulted in an improvement in data retrieval by 15%.
- Performed regular code versioning and reviews in **Bitbucket**. Led the backlog grooming, sprint planning and standups in agile mode to ensure efficient sprint execution and adaptability to the global team.

PROJECTS

Industry Collaboration with the 911 of City of Barrie, ON (Project Report): Performed **ETL** on CAD and RMS data, census data and utilized ArcGIS to obtain the dissemination areas of Barrie. Developed time-series forecasting models like **LSTM, Prophet and VAR** to predict the next fire emergency by the dissemination area and its severity. Increased the performance of LSTM by 6% using **hyperparameter tuning**.

Google Summer of Code, Contributor with CHAOSS (Global): Developed **PostgreSQL** queries to analyze the open-source community data and track the proportion of new contributors vs returning contributors, location, diversity and commit frequency of the contributors. Optimized the performance of the machine learning models analyzing the contributor retention and engagement patterns by 12%. Displayed the metrics using dash plotly library.

Deep Learning Intern at Ittiam Systems, India: Benchmarked the speed and accuracy of pre-trained networks like ssd_resnet_50, Intel Open VINO, YOLOv3 and MobileNet SSD. Developed and optimized the deep learning pipelines using **TensorFlow** and improved the performance of the model by 18% using **central cropping**.

SKILLS

Machine Learning Toolbox: scikit-learn, Tensorflow, Time-Series Forecasting, AWS, MLflow, Spark
Software Development Toolbox: Python, SQL, Docker, Flask, Git, RESTful API design

EDUCATION

Post Graduate Certificate in AI (Honors) **Jan 2024 – Aug 2024**
Georgian College of Applied Arts and Technology, Barrie ON
Courses: Emerging AI Technologies, Machine Learning Programming, Conversational AI

Bachelor of Technology in Computer Science and Engineering **July 2016 – June 2020**
Visvesvaraya National Institute of Technology, India
Courses: Neural Networks, Database Management, Data Mining and Warehousing

CERTIFICATIONS

AWS Certified AI Practitioner