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DIVYADHARSHINI MURUGANANDHAM

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MOTIVATION
DATA SCIENCE | MACHINE LEARNING

As a Data Scientist and Machine Learning enthusiast, I strive to tackle complex business challenges creatively and systematically. My ultimate goal is to deliver real value to teams, businesses, and end-users through data. With a relentless commitment to continuous learning and keeping up-to-date with the latest techniques, I am dedicated to optimizing results with innovative solutions.

EDUCATION

MS in Computer Science, Khoury College of Computer Sciences, Northeastern University.   **September 2022 — May 2024 (EXP)**
Courses: *Program and Design Paradigm, Database Management Systems, Algorithms.* **GPA:4.0/4.0**   **Seattle, WA**
BE in Computer Science, Kumaraguru College of Technology.   **August 2015 — April 2019**
GPA: 8.8/10.0, *Ranking: 1/120 [Gold Medalist]*   **Coimbatore, India**

TECHNICAL SKILLS

Languages: Python, R, SQL, Java, C, C++, Perl, SAS.
Database and Web Technologies: MangoDB, MySQL, SQLite, PostgreSQL, HTML, CSS, JavaScript, Bootstrap, Qt, Springboot.
Frameworks/Tools: Jupyter Notebook, Anaconda, BERT Annotation, R Studio, Django, Pycharm, MYSQL , Visual Studio Code.
Data visualization and Packages: Tableau, PowerBi, Matplotlib, Pandas, NumPy, Keras, SciPy, Scikit-learn, OpenCV, TensorFlow.
Statistics and Machine Learning: Regression, Classification, Clustering, Decision Trees, Random Forest, SVM, Linear Programming.
Platforms and OS: GitHub, Airflow, ETL pipeline, AWS EC2, Docker, Slack, ALM, Jenkins, Eclipse, Maven, Windows, Linux, macOS.

WORK EXPERIENCE

Khoury College of Computer Sciences, Northeastern University   **Seattle, WA**
Graduate Student Researcher, *Language Acquisition Research*   **Jan 2023 — May 2023 (EXP)**
- Analyzed conversational data and alignment for second language development using NLP.
- Performed conversation text annotation using BERT and created annotation scheme for Named Entity Recognition, Part-of-Speech tagging, sentiment analysis, and text classification on predefined labels.
- Handling ongoing research and studies in finding the best machine learning model to be trained on large amount of text data annotated using BERT, to learn pattern and structures of the second language.

Bosch Global Software Technologies   **Banglore, India**
Member of Data Science and AI community   **July 2020 — August 2022**
- Built and trained a one class LSTM autoencoder to detect anomalies in braking maneuvers during active safety braking system validation tests by calculating mean absolute error.
- Employed Gaussian Naive Bayes classifier to analyze and debug the measurement log taken from mm6 device by end users to provide expert knowledge summary on errors. The system conserved manual efforts from 5 hours to 2 hours.
- Developed an Automatic Number Plate Recognition system using YOLOv4 darknet framework which detects the number plate from video sequence and PP-OCR model for the text recognition. The system was trained and tested with 10-12 FPS along with 90% accuracy having a dashboard feature for analytics display.

Bosch Global Software Technologies   **Coimbatore, India**
Senior Software Engineer, *Electronic Stability Program Team*   **July 2019 — August 2022**
- Responsible for developing and optimizing tests for ECU's network functionalities using CAPL script for continuous testing.
- Developed a front end service using PyQt and Beautiful Soup parser library for the simulation based test environment by incorporating vehicle bus system database.
- Revamped and remodeled the human intervention tool to an automated environment using Python scripts which performs auto run and evaluates the performance of hardware test setup in Jenkins server for continuous test environment.
- Designed and developed an automated tool using Python and Tkinter to import customer requirements CAN network database for a real time vehicle ECU into IBM Doors conserving 25% of manual efforts.

ACADEMIC PROJECTS

HELLA - Smart reading bot for visually challenged people — *Python, NLTK, RNN, OCR, Google TTS, Raspberry Pi*
- Developed an integrated system that uses a camera as an input device to feed text documents and an OCR software module to process the scanned documents.
- Performed text analysis and produced classified text to speech output which is given via the connected output device.
- Implemented speech-to-text analysis which allows people to interact with it and receives audio output. The system was developed as a device with a power backup and achieved 92% accuracy.

Inventory Tracking and Online Shopping cart Management System — *Java, MySQL, JSP, SpringBoot, RESTful, Bootstrap*
- Designed a web application that enables users to create profile, access, search and checkout products. Front service development involved react.js and UI components using bootstrap.
- Built RESTful API as a back-end service with Java Spring Boot and Tomcat servlet and established MySQL database connection to ensure data storage and accessibility.

PUBLICATIONS

GDP based medal count analysis in Summer Olympics for two decades - Exploratory Data Analysis - IJRTE Journal   PAPER