Dev Divyendh Dhinakaran

Fairfax, VA | +1(571)–244–3883 | ddhinaka@gmu.edu | LinkedIn | GitHub

EDUCATION

George Mason University Aug 2023 – May 2025
Masters in Computer and Information Sciences Fairfax, Virginia
GPA: 3.67/4

- Relevant Coursework: Data Mining, Database Systems, Object-Oriented Software Specifications and Constructions, Analysis of Algorithms

Amrita Vishwa Vidyapeetham Jul 2019 – Jun 2023
Bachelor of Technology in Computer Science Coimbatore, India
CGPA: 8.44/10

- Relevant Coursework: Machine Learning, Artificial Intelligence, Natural Language Processing, Computer Vision, Computer Graphics, Time Series Analysis and Forecasting, Semantic Web, Data Science

SKILLS

Technical Skills	C, C++, Python, Java, SQL, MySQL, Oracle DB, Apache Spark, Firebase, Git, Linux, Ubuntu, HTML, CSS, JavaScript, Scala, Haskel, XML, Machine Learning, Deep Neural Networks, Natural Language Processing.
Tools and Framework	Tableau, Scikit-learn, TensorFlow, PyTorch, Keras, Pandas, NumPy, Matplotlib, Seaborn, OpenCV, NLTK, SpaCy, Flask, GitHub
Soft Skills	Problem-solving, Critical Thinking, Teamwork, Adaptability, Time Management

EXPERIENCE

Undergrad Research Assistant:

- Constructed testbed using Raspberry Pi 4B and two Intel Movidius Neural Compute Sticks, and achieved remarkable **50% increase** in Frames Per Second (FPS).
- Designed scripts to incorporate OpenVINO and adjusted C-make files to fix build problems in legacy software.
- Developed a two-step Python algorithm to parse XML files and analyze computational complexity, resulted in substantial **60% reduction** in latency.
- Adapted YOLO object recognition algorithm for parallel inference on multiple devices, resulted in **30% reduction** of inference time and CPU temperature.

PROJECTS

Project Title: Uncovering Bias and Ensuring Fairness - A Comprehensive Analysis of the COMPAS Algorithm

- Conducted a rigorous fairness and bias analysis of the COMPAS dataset, focusing on addressing discrimination in algorithmic decision-making.
- Employed Random Forests and Gradient Boosting to enhance predictive accuracy and mitigate biases.
- Utilized fairlearn reduction technique and demographic parity constraints to counteract biases actively with 87% accuracy and mean selection rate of 50.64 %.
- Employed selection rate as a parameter to measure fairness, leading to significant improvements in predictive accuracy and fairness. This approach effectively solved bias in the COMPAS data, contributing to ongoing efforts in algorithmic fairness research.

Project Title: End-to-End Machine Learning Solution for Heart Stroke Prediction

- Utilized AdaBoost and Random Forest algorithms for model training.
- Employed data ingestion techniques to preprocess data and pipelines for data transformation.
- Integrated ML model with Flask-based frontend application allowing to input new data and receive predictions in real-time.
- Deployed the application on AWS cloud using CI/CD pipelines for seamless integration and deployment.
- Leveraged GitHub Actions for CI/CD and Azure cloud for MLOps deployment and management of the ML application.

Project Title: COVID-19 Visualization Project

- Led a COVID-19 visualization project on data scraping, preprocessing, and visualization.
- Utilized Python for data scraping and preprocessing, extracting relevant information for analysis.
- Employed SQL to run queries and uncover insights from the preprocessed data.
- Designed a dashboard that provides comprehensive insights into the spread, impact of COVID-19 and informed decision-making based on geographical locations.

RESEARCH PUBLICATIONS

"Inference at the Edge for Complex Deep Learning Applications with Multiple Models and Accelerators," (2023 14th ICCCNT), Delhi, India, 2023, pp. 1-7, doi:10.1109/ICCCNT56998.2023.10306363.

CERTIFICATION

Google Foundation certificate (Data Analytics Certificate) – Data, Data Everywhere