Bharathiraja Muthurajan

Data Analyst

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PROFESSIONAL SUMMARY

Certified data analyst with more than five years of experience as a researcher in India's top-ranking education institute. Comprehensive knowledge of building data analytics pipelines on on-premise and cloud platforms for real-time descriptive and predictive analytics. Experience includes programming languages like SQL and python and analytics business intelligence tools like Tableau and Power BI. Project management experience collaborating across IT services companies and research labs to deliver on-time and industry-compatible research outputs.

SKILLS

LANGUAGES
- SQL (MySQL)
- Python (PySpark 3.x)
- R
- Markdown

DEVELOPER
- Git
- Linux shell
- Jupyter notebook
- Visual Studio Code
- Amazon Web Services
- Microsoft Azure

ANALYTICS & BI
- Microsoft Excel
- Microsoft Power BI
- Tableau Desktop

EDUCATION

IIT MADRAS
Graduate studies
Research in traffic state estimation and sensor development
- Data Science • Image processing
- Real-time traffic data
Apr 2022 | Chennai, India

FH TECHNIKUM WIEN
Master of Science
Intelligent Transportation Systems
- Data Analysis • Sensor development
Jul 2016 | Vienna, Austria

UNIVERSITY OF ST ANDREWS
PG Diploma
Networks and Distributed Systems
- Cloud computing • Programming
Nov 2013 | St Andrews, Scotland

VCET
Bachelors in Engineering
Electronics and communication
Jun 2012| Madurai, India

EXPERIENCE

DATA ANALYST (RESEARCH SCHOLAR) | IITM
Aug 2016 – Apr 2022 | Chennai, India
- Published 6 peer-reviewed journal articles on the analysis of traffic sensor data using descriptive and predictive analytic tools **Tableau**, **SQL**, and **Python**
- Developed 2 traffic scanners using Wi-Fi and LiDAR sensor technology with **Linux OS** and **Python**
- Designed and developed data analytics pipelines for in-house traffic sensors with batch and stream processing using **Spark**, **Microsoft Azure** services, and reporting using **Tableau**
- Migrated previous generation sensor data pipeline consisting of over 400 devices from on-premise to **AWS** cloud infrastructure improving sensor operation reliability by more than 15%
- Operated as the **point of contact** for 2 industry funded projects, coordinating deliverables across 2 research labs, and 9 scholars with on-time project closure
- Managed 8 field technicians in the maintenance of a total of 590+ traffic sensors, provided them with **operational** dashboards, and created performance incentives. Also provided stakeholder faculties with **strategic** dashboards for tracking data volume and sensor performance using **SQL** and **Tableau**
- Implemented continuous monitoring of lab developed sensors using operational dashboards and reports using **Power BI**, providing bug fixes and performance upgrades, improving sensor capture performance by 60%
- Spearheaded the successful retrieval of 240 transit vehicle location sensors within 6 months and overhauled sensor maintenance procedure
- Mentored 4 technical project staff and undergraduate researchers on traffic data analysis projects and won a **best paper** award in collaboration
- Devised 2 image processing software for vehicle trajectory tracking and counting using **Python**, published the analysis in 2 peer-reviewed journals
- Orchestrated international data collection project in-person in India and **United States** in collaboration with Iowa State University
- Collected 30 days of naturalistic pedestrian behavior data in collaboration with **Austrian** road safety board, used in Vienna road safety evaluation
- Completed coursework and comprehensive exam toward a doctoral program

CERTIFICATIONS

Tableau Certified Data Analyst, Aug 2024

Power BI Data Analyst Associate, Dec 2023

Google Data Analytics Certificate, Nov 2023

Databricks Certified Associate Developer for Apache Spark 3.0, Sep 2024

AWS Certified Developer - Associate, Dec 2025