Vignesh Palaniappan

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Data professional with 8 years of teaching experience, including summer schools, private tutoring, and volunteering. Proficient in Python and SQL and certified as an AWS Cloud Practitioner, with strong background in linear algebra/statistics concepts. Recognized for excellent communication, effective collaboration, and a structured approach to teaching and mentoring students.

EDUCATION

University of California, San Diego — **Expected Graduation: Jun 2025**
Master of Science in Data Science (MS) — **GPA: 4.00/4.00**
- **Courses** – *Prob & Stats for Data Science (DSC212), Statistical Models (DSC241), Machine Learning (DSC240), Algorithms for Data Science (DSC291), Scalable Data Systems (DSC204A), Data Mgt for Data Science (DSC202)*

Imperial College London — **Sep 2010 – Jun 2015**
Integrated Master of Science in Aerospace Engineering (MEng) — **GPA: 3.89/4.00**
- **STEM mentor** – assisted professors with engineering lectures and running lab demonstrations for pre-university students. (link)

EXPERIENCE

LeighFisher (Jacobs Engineering Group) — San Diego, USA
Principal Consultant — **Oct 2019 – Jul 2024**
- Build scraping tools for rental car benchmarking projects using **Python Selenium, reducing data collection time by up to 75%.**
- **Developed Python scripts** for San Diego International Airport to process and analyze aircraft radar surveillance data for runway optimization studies, identifying savings of up to 10% in runway occupancy time.
- **Perform statistical modelling** and data processing of rideshare data, airport security incidents, and geolocated traffic counts.
- **Maintain and update internal databases** on industry metrics such as cost per enplanement and airport credit ratings. Create dashboards in **Tableau** displaying historical passenger trends, aircraft operations etc.
- Conduct business analytics and **develop forecasting models** / cost-benefit models for US airports. Projects include bond feasibility studies ($500m secured), cost-benefit analyses ($75m investment), and capital development programs ($4.1bn size).
- Present analyses and solutions to airport management (CXO), air traffic control, capital/financial planning teams, and investors.

Jacobs Engineering Group — London, UK
Senior Consultant — **May 2017 – Oct 2019**
- Created air and rail mode traffic forecasts **using regression, elasticity, and gravity-based mathematical techniques.**
- Conducted exploratory data analysis of airline schedule data from industry data sources and developed data analytics tools.
- Performed data migrations from Excel to Access and developed queries for data extraction.
- Constructed economic appraisal models to evaluate $790m of UK rail scheme investments for Department for Transport using route and ticket data. **Automated model suite workflow to reduce scenario run times by 88%** and improve reliability.
- Organized team social events, **assisted training of 4 new graduates**, and volunteered to redesign company website.

Helios Technology — Farnborough, UK
Data Analyst — **Apr 2016 – Apr 2017**
- **Analyzed flightpath and weather data** using Geographic Information Systems and performed spatial queries to visualize the noise impact on local communities surrounding London Gatwick Airport.
- Conducted aircraft payload-range analyses and **data processing of engine performance data.**
- Performed Extract-Transform-Load (ETL) of flightpath data for airspace capacity optimization models.
- Created economic models using financial, operational, and regulatory data for appraisal of a joint venture.

Williams F1 Team (Internship) — Oxford, UK
Aerodynamicist in Rear End Team — **Aug 2013 – Aug 2014**
- Managed development of 7 aero products using a mix of CAD design, CFD analysis, and wind tunnel testing.
- Performed **data visualization and analysis** of large track and wind tunnel datasets for product improvements of 0.25s.
- Reported competitor development trends for four teams across the race season.

Private Tutor — London, UK
Volunteer/Self-employed — **Jan 2010 – Dec 2018**
- Taught Maths, Further Maths, and Physics to students of various ages and abilities. **Responsibilities included teaching syllabus content, setting homework problems, grading, exam preparation**, and general guidance for university applications.

SKILLS

Programming Languages: SQL, Python, R, VBA, MATLAB, C++
Databases: MySQL, PostgreSQL, MongoDB, Neo4J
Big Data and Distributed Computing: DASK, Apache Spark (incl. MapReduce), PySpark
Data Analysis & Modelling: Excel**,** Tableau, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, PyTorch, Selenium
Other: AWS Certified Cloud Practitioner, Git/GitHub, QGIS, Siemens NX