Sean Marandure

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Education

Master of Science – MSc Data Science and Advanced Computing

University of Reading   *September 2025 – September 2026*

BCS Accredited Degree

- Modules: Applied Data Science with Python, Artificial Intelligence and Machine Learning, Research Project, Big Data and Cloud Computing, Data Science Algorithms and Tools, Data Security and Ethics, Mathematics and Statistics for Data Science

Bachelor of Engineering – BEng (Hons) Architectural Environment Engineering

University of Nottingham   *September 2020 – July 2024*

CIBSE Accredited Degree

- Completed Foundation year as part of BEng Pathway
- Modules: MATLAB, Mathematics, Differential Calculus, Machine Learning & Computational Fluid Dynamics, Project Management, Control Systems, Fluid Mechanics, Sustainable Technologies, Applied Engineering and Science, Computer Methods
- Achieved – 2:2

International Baccalaureate (IB) – 31 Points

Dartford Grammar School for Boys   *September 2017 – May 2019*

- Subjects: Physics, Mathematics, English, Japanese, Geography, Design Technology: Product Design

GCSEs – 11 Subjects including Maths (A), English (B), Computer Science (A), Statistics (A)

St. Columba's Catholic Boys' School   *September 2012 – July 2017*

Projects

BEng Final Year Research Project – CFD-ML Urban Microclimate Optimisation

University of Nottingham | May 2024

- Developed a CFD machine learning framework to optimise urban microclimates using ANSYS Fluent and TensorFlow
- Trained an artificial neural network on CFD-generated data to interpolate missing values and predict optimal building geometries for pedestrian wind comfort
- Used Python, NumPy, TensorFlow, and OpenWeatherMap API for data gathering, pre-processing wrangling, and model training
- Validated CFD simulations with real weather data; achieved successful ML-based optimisation in wind velocity predictions

SolveMyMatrix – CLI-based Matrix Solver (Python, NumPy, SymPy)

An educational tool to assist in solving linear systems using matrix transformations.

- Implemented Gaussian elimination and inverse matrix computation in Python
- Designed input validation flow for command-line interface
- Used this as a study aid while completing Coursera's Mathematics for Machine Learning course
- GitHub: https://github.com/STMdevelops/SolveMyMatrix

Professional Experience

CAD Engineer – Caice Acoustic Air Movement Ltd

Winnersh, UK | August 2024 – September 2025

- Developed parametric CAD automation scripts using Autodesk Inventor iLogic (VB.NET-based scripting language) to programmatically automate custom acoustic door model generation
- Enabled dynamic, user-driven parameterisation for rapid CAD model generation
- Enhanced legacy Autodesk Inventor template systems via rule-based scripting, integrating mechanical engineering principles with algorithmic software logic
- Collaborated cross-functionally with design and manufacturing teams, validating scripted outputs against acoustic performance specifications and production tolerances
- Gained practical exposure to software engineering concepts including logic structures, conditional automation, rule-based systems, and parametric modelling, informing subsequent interest in algorithmic methods and data-driven decision making in machine learning

Industrial Cadets Engineering Internship – BAE Systems

Rochester | December 2017 – May 2018

- Developed smart wearable tech prototype for defence environments, applying systems engineering and product lifecycle principles
- Awarded CREST Gold for innovation and engineering excellence

Technical Skills: Programming (Python, VB.NET, MATLAB, HTML), Data Science (TensorFlow, NumPy, SymPy), Tools (Git, VS Code, Matplotlib, Postman), Databases (SQLAlchemy, SQL), CAD (AutoCAD)