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Pete Matthews

Personal Website
LinkedIn
GitHub

Employment

Mechanical Design Engineer | **Derry Building Services Ltd** | **Nov 2019 – Present**

- Co-managed projects for HMRC (£30.2m), JLR (£18.1m) and ZF Group (£11.1m) by designing multi-disciplinary sustainable heating, ventilation, air conditioning and domestic water systems from concept to construction status.
- Reduced project cost by £225k by interrogating system data and implementing a value engineering strategy.
- Project Manager of a cross-functional team on 3 projects including Ed City London (£4.0m).
- Won a £1.2m project bid by producing a contractor's proposal using estimation software in conjunction with 20+ years of previous project data.
- Wrote a dynamo script to populate 100,000+ data points with specific design parameters into Revit model elements.
- Manage stakeholders in weekly workshop meetings with the client, architects, structural engineers etc. to effectively communicate my work in an engaging and digestible manner.

Junior Mechanical Design Engineer | **NOVO Integration** | **July 2017 – Aug 2018**

- Created 3D models of HVAC systems and conducted energy analysis to optimize building performance and reduce costs by 10%.
- Developed load calculations, piping layouts, ductwork designs, equipment selections, and construction documents for commercial projects
- Completed site visits with the client to run commission-installed systems and ensure the performance and calculated data match.

Education

Codecademy | **Computer Science Career Path** | See Credential

- Modules: Object-Oriented Programming; Data Structures; Algorithms; Databases; Computer Architecture; Discrete Maths
- Other courses:
  - Learn Python 3 See Credential
  - Learn SQL See Credential
  - Analyse Data with SQL Skill Path See Credential

Sheffield Hallam University | **BEng Mechanical Engineering** | **2:1 (Upper Second-Class Honours)**

- Rowing Club Treasurer
- Solar Car Challenge Winner

Technical Projects

- **Search Algorithm Visualiser** – A web-based app that visualises how search algorithms operate. This project stemmed from learning algorithms myself and helped with my own education. (JavaScript, NodeJS, React, HTML/CSS). Live GitHub
- **Sudoku Solver** – Sudoku game where users can pencil in answers before committing to a number. Users can complete the board with the solver, which uses the backtracking algorithm to assess what's left of the board. Web-based app (Chrome is best) but is most optimal when installed locally to visualise algorithm in full operation. (Python, HTML/CSS). Live GitHub
- **Sorting Visualiser –** Web-based app that visualises how sorting algorithms operate. This project can be considered a sequel to the Search Algorithm Visualiser. The principle is similar but uses different animations to convey how each sorting algorithm which is especially helpful when slowed down. (JavaScript, NodeJS, React, HTML/CSS). Live GitHub

Languages and Technologies

- Python; SQL; JavaScript; HTML; CSS; React; NodeJS; XML (XSD) Schema
- Visual Studio; SQLite; XCode; Excel; Revit/Dynamo