DEL JACKSON

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PROFILE

AI & Machine Learning Engineer with a background in engineering, computational modelling, and AI-driven problem-solving. I recently completed an MSc in Computer Science with an AI specialisation at the University of York, where I developed machine learning models for motion analysis. Passionate about applying AI to automation and industrial engineering solutions. Strong programming skills in Python, TensorFlow, Scikit-Learn, and Pandas, with experience in data analysis, computational modelling, and AI-driven optimisation.

Key Strengths: Machine Learning, AI Development, 3D CAD, Computational Engineering, Problem Solving, Project Planning, Mathematics, Python, Data Analysis

EDUCATION

University of York – York, UK

MSc Computer Science with Artificial Intelligence (2022 – Expected 2025)
Status: Coursework completed, thesis pending evaluation (on track for merit)

Key Coursework: Data Analysis, Machine Learning, Deep Learning, Java and Python Programming, SQL

Thesis Project:

- Developed a machine learning model to classify movement patterns using sensor data (accelerometer, gyroscope, force).
- Applied Python, NumPy, Pandas, and Scikit-Learn for data preprocessing, feature engineering, and visualisation.
- Implemented deep learning techniques (CNNs, time-series analysis) to refine model accuracy.

University of Iowa – Iowa City, IA, USA

- **BS Civil Engineering** (2004–2009)
- **MFA Art and Design** (2009–2013)
- **BA Art** (2000–2004)

Key Coursework: Calculus, Statistics, Linear Algebra, Differential Equations, Mechanics of Deformable Bodies (with Finite Element Modeling (FEM), C Programming)

RELEVANT EXPERIENCE

Machine Learning Researcher (Thesis Project)

University of York | 2023 – Present

- Developed a machine learning model for motion analysis that classified swimming strokes based on acceleration data from hand sensors
- Applied deep learning frameworks (TensorFlow, Scikit-Learn, Pandas, NumPy) to classify movement patterns.
- Engineered feature extraction and preprocessing pipelines to improve model accuracy
- Conducted data visualisation and statistical analysis to refine the model's interpretability
- Documented findings in a research paper detailing model design, methodology, and evaluation
- Explored AI-driven feedback systems for real-time performance analysis.
- Achieved a high accuracy rate in swim stroke detection from raw acceleration data
- The model is being considered for integration into EO SwimBetter's commercial device

Senior Engineer

Polar Technology | Eynsham, UK | 2019 – 2023

- Led engineering projects in carbon fibre manufacturing and metal fabrication, supporting hypercars, F1, aerospace, medical, and energy production industries.
- Oversaw manufacturing from technical drawings to full-scale production as a project engineer, ensuring on-time delivery and compliance with industry standards.
- Designed and implemented automated and robotic welding systems, improving production efficiency, precision, and repeatability.
- Conducted mechanical analysis of welds, developing optimal weld settings to meet industry standards and improve structural integrity.
- Created manufacturing timelines, coordinating development, tool creation, and production runs.
- Used 3D CAD software to design tooling and optimise the manufacturing process for composite and metal components.
- Led root cause investigations for manufacturing failures, implementing corrective actions to prevent defects and improve quality.
- Served as the primary customer point of contact, managing project requirements, technical documentation, and design-for-manufacturing reviews.
- Collaborated with cross-functional teams to optimise mechanical design workflows

Design Engineer

Aptiv | Torslanda, Sweden | 2017 – 2018

- Worked on an autonomous vehicle project for Volvo, ensuring that mechanical integration of electrical components met design, safety, and manufacturing standards.
- Developed Failure Modes and Effects Analysis (FMEA) documents to assess and mitigate potential design risks.
- Used 3D CAD simulations to evaluate manufacturing installation feasibility and improve design efficiency.
- Built computer models to analyse stress in electrical cables, leveraging real-world road and engine vibration data to enhance part longevity.
- Conducted battery cable stress analysis, redesigning cable lengths to minimise strain and extend component lifespan.
- Followed Volvo Cars' engineering processes and procedures, ensuring compliance with design validation and quality control standards.
- Led root cause analysis for quality issues, preparing technical reports and corrective action plans to prevent future defects.
- Adhered to design timelines, coordinating with cross-functional teams to ensure on-time project completion.