Aaron Howell

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ABOUT ME

With a willingness to learn, a growth mindset and continuous learning, I enjoy advocating for and applying AI to solve business challenges, with an aim to optimise operations and gain more experience presenting solutions to stakeholders, clients, and teams.

EDUCATION

MSc. Artificial Intelligence with MyWorld Scholarship – University of the West of England (UWE) • (Sep 2024 – May 2027)

- **Status:** Gap Year for working opportunities, resuming for Sep 2026
- **Topics:** Model Training (Gradient Descent .etc.), Data Science & Statistical Inference with R, ML Algorithms, Deep Learning

BA Honours. Automotive & Transport Design with Placement – Coventry University (Sep 2017 – Jul 2023) • **Overall grade**: (1st Class)

RELEVANT EXPERIENCE & PROJECTS

- **NYC Taxi Fare Cost Prediction –** Using **PyTorch** (Jul 2025)

Built a **taxi fare prediction model using PyTorch** for a regression task based on the NYC Taxi Fares dataset, **and designed a custom neural network class from scratch**, implementing key components like **forward propagation, backpropagation, and gradient descent.** The model was trained to predict ride costs using features such as pickup/dropoff location, time, and passenger count, achieving an **average prediction accuracy within $3.60 of the actual fare.**

- **Iris Classification ANN –** Using **PyTorch** (Jul 2025)

Following tutorials from Pierian Data's "Deep Learning with PyTorch", I built a **95% accurate classifier** using a custom-built Artificial Neural Network for the iris petal dataset, which enables the classification of a flower species based on sepal length, petal length and petal width.

- **Email Spam Detection, NLP Classification** – Using **Scikit-Learn** (May 2025)

A Natural Language Processing end-to-end email spam detector using NLTK for tokenisation and stemming, plus custom scikit-learn transformers to convert emails into word-count and TF–IDF features. By fine-tuning Logistic Regression, Multinomial Naive Bayes, and Random Forest via 3-fold CV and GridSearchCV, the pipeline achieves over 94% accuracy and above 96% precision/recall on both standard and challenging SpamAssassin datasets.

WORK EXPERIENCE

Independent Composites Ltd – *Software Development Intern* – Bristol, UK (Nov 2024 – Apr 2025)

- Designed an **End-to-end Data Transformation Pipeline Algorithm** using an array of stacked Python scripts with subsystems, Error Handling and Debugging, querying an MS Access Relational Database using SQL, to generate financial cost quotes at up to 800% speed for customers in addition to writing an instruction Documentation for how to use it.

TotalSim – *Computational Fluid Dynamics Visualisation Intern* – Silverstone, UK (Jul 2021 – Nov 2021)

- Communicated effectively alongside a cross-functional Applied Physics (Aerodynamicist) team to use Scientific Computing to produce a Senior-level series of 3D renderings for the 2021 Formula One prototype for Formula One Management **2.8 times faster than the standard operational speed** by using a queuing system that could utilise parallelism while I focused on other managing time with billable client projects and presenting weekly developments of an advanced formula one vision concept.