William Baker

London | william.baker@outlook.com | william-baker.github.io | linkedin.com/in/william-baker-ai/

EDUCATION

Cambridge University **In Progress** 2022-2023
Machine Learning with Machine Intelligence
SOTA sentiment analysis, SOTA contrastive vision learning, Neural Processes (Group project), Gaussian Processes, Measure theory, vector/function spaces and Monte-Carlo sampling techniques

King's College London **First Class Honours (84.1%)** 2019-2022
Bsc Computer Science with Intelligent Systems
Machine Learning, Bayesian statistics, Signal Processing, Predicate Logic, Data Visualisation, Robotics & Control (Group project), Biologically inspired methods, Computer vision, Algorithms, Planning...

A-Level: A*A*A*A + joint CompSci Physics award | **GCSE** 9, A*, A*, A*, A, 7, 6 + 3 CompSci awards

Proficient: Python, Pytorch, Pandas, Tensorflow, Scikit-Learn, Plolty, Git, C++, Arduino, CAD & Electronics

WORK EXPERIENCE

Princess Yachts, Data Scientist (2021-2023): Once in a lifetime opportunity working with Mr Antony Sheriff developing warranty models to forecast future warranty costs for a fleet of over a thousand luxury yachts.
Time series modelling with GRU's, Natural language processing, Monthly performance reporting, Seq2Seq models with Bahdanau attention, PowerBI, Salesforce, Plolty

Mathwall ltd, System Developer: Developed a control system + web app to increase car startup efficiency.

RESEARCH PROJECTS

Argumentation Mining from Twitter: KCL dissertation -identify argumentative claims in Tweets using novel techniques and BERT. Extensive research into sentiment analysis and argumentation mining & academic paper authorship. Self-attention models & Pre-training. Achieved 78.2% accuracy.

Stock Analysis (In Progress): Web scraping level 1 stock data, fundamentals and economic indicators and testing various strategies and time series models

Neural Processes (Cambridge): Group project to reproduce *Conditional Neural Processes*[2018] & *Neural Processes*[2018]

CUDA Accelerated ML library: High school project to understand CUDA kernels & Neural networks in C++
GPU & CPU backends for matrix operations, MLP networks, CNNs, training utils & a testing framework

Data Visualisation (KCL): Visualising global COVID-19 spread according to Data visualisation theories

Gaussian Processes (Cambridge): Extensive Coursework series across 2 modules
Statistical models, equivalent to neural networks, can correctly represent uncertainty of sampled signals

Contrastive Learning from Images (Cambridge): Improved on SOTA DEIT performance by 2.65%

Autonomous Control: second-year group project developing an autonomous robot in ROS (Grade: 88%)
Asynchronous potential fields & obstacle visualisation, A* pathfinding, PID motion control

Designed, built, programmed and 3D printed a Drone: & 10km transceiver for my Gold DofE award

Other

Student Robotics Project: Participated in the Southampton student robotics project, developing a robot to pick up and place cubes in a target area using image recognition

Team Work: Neural Processes, Autonomous Control, Robotic Mechanisms, Software Design, Planning

Local PC business: Contributed to the local community providing PC services and teaching to the elderly

Sport: Churchill College Rowing, DH mountain biking, trail running, watersports