Thomas Bale

www.thomasbale.com | 07878 391314 | tokbale@outlook.com | linkedin.com/in/thomas-bale-5863542a4

Experience

Machine Learning & Software Engineer, DigitalU3 – Remote   Sep 2024 – Current
- Contract to design a product for the u3core suite for a neural network approach for fire, smoke and oil detection.
- Dual deployment for AI edge and cloud cameras. Included is a web app for real time data visualisation, logs and live video streaming.

Co-owner, Veloworks Components – Bristol   Sep 2024 - Current
- Co-own and run a small business, where we create 3D printed, performance cycling products.
- My role involves designing new products and customising existing designs for customers, arranging sponsorships with influencer athletes and cycling/tri clubs, social media marketing, overseeing the printing process and managing accounts.

Casual Lifeguard, Everyone Active SLM – Bristol   Nov 2023 - Dec 2024

Academic Tutor, Self-Employed – Remote/London area   Jul 2021 - Sep 2023
- Tutored in Maths, English, Physics and Computer science for A-level, GCSE and 11+.

VAT Database Management, Triconsultants Ltd – Remote   Jul 2021 - Sep 2021
- Managed a database for VAT from receipts and invoices for a small business that ships luxury goods to Vietnam.

Education

University of Bristol, BSc in Computer Science   Sep 2023 – Current
- 83.5% avg in contributing modules (1st class - 4.0 GPA eq)
- **Activities:** Founder and president of UoB quantum computing. MIT quantum hackathon - team lead and coach for 2 teams. CIUK HPC cluster challenge- best result of 2nd . Comprep swimming (Social Secretary), Triathlon.

Colchester Royal Grammar School, A-Levels   Sep 2021 – Jul 2023
- A*A*AA - Computer Science, Maths, Further maths, Physics
- 100% Achieved in comp sci programming NEA | 1st in cohort for computer science
- **Activities:** CSS (President), Greenpower formula car (Team Lead & Electronics Lead & Composites)

Felsted School, GCSEs   Sep 2018 – Jul 2021
- 9,9,9,9,9,9,9,9,9,A*,Distinction including Maths and English | 100% in DT NEA | Arkwright Final Candidate

Personal projects

Quantum Finance Predictions   github.com/TumCucTom
- A web app that takes a stock symbol, fetches historical data and outputs predictions for future movement. Solution for a 3h creative quantum hackathon.
- Tools/skills used: Python, Qiskit, ML, AI, Node and vue.js, LaTeX, Jupyter

Infer from underlying patterns in Wordle   TumCucTom/georgia-AI
- A ML AI that infers the NYT wordle using only the results of how other people guessed. Implements optimisation techniques for learning and post-processing.
- Tools/skills used: python, pytorch, numpy, NN optimisation techniques, beam search.

Quantum Traffic Flow [In Progress]   github.com/TumCucTom
- A project leveraging the Quantum Approximate Optimization Algorithm (QAOA) to enhance local traffic management in Bristol, England. Web-app to visualise the traffic and optimisations coming.
- Tools/skills used: python, qiskit, data science, quantum algorithms, flask, vue.

Technologies and Skills

Languages and Technologies: GO, C, Java, C#, SQL, Haskell, Python, Qiskit, Torch, Tensor, Node.js, R, AWS

Skills: AGILE Methods, HPC, Quantum programming, Test Driven Development, ML, AI, CAD, databases, first aid