

# Ben Wagstaff

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Mathematics & Computer Science -  
Durham University

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Systems-oriented builder focused on optimisation, careful evaluation, and reliable automation pipelines. Comfortable moving between messy real-world processes/data and rigorous algorithmic work.

## Education

### Durham University

2024 – 2027

*BSc Joint Honours: Mathematics & Computer Science*

- Top-10 project scores (AI & Optimisation coursework's) among 230 students.
- Core areas: algorithms, optimisation, probability/linear algebra, and systems design.

## Experience

### Kingdom Impact - Systems Intern

Summer 2025

*Workflow automation & reporting infrastructure (CEO-facing)*

- Built automated reporting + document-generation pipelines (Excel/VBA, Apps Script, templating → styled PDFs).
- Integrated workflows across Google Workspace, Salesforce, and Supabase; prioritised reliability and auditability.
- Delivered client-facing reporting outputs with clear metrics, edge-case handling, and repeatable operational processes.

### LyricalLearning - Web & Cloud Build (2-person team)

Mar 2025 – Apr 2025

*Azure deployment, database setup, frontend delivery, operational tooling*

- Owned Azure deployment, database setup/linking, and frontend build; partnered on backend service integration.
- Implemented CI/CD workflow, structured logging, and environment-safe configuration for production stability.

### LCP - Data & Automation

Oct 2023 – Nov 2023

*SQL / Databricks / Excel automation*

- Consolidated multi-source datasets supporting internal automation/AI integration workflows.
- Built Excel automation to standardise reporting and reduce manual operational work.

## Selected Projects

### Zero-shot EEG → Image → Text Decoding

[Report](#)

Transparent linear modelling (Ridge/LDA/CCA/k-means) under strict zero-shot constraints; **23% top-1, 33% top-10** across 1,854 classes.

- Isolated subject-driven variance from semantic signal (ERP-dominant structure) to improve generalisation.
- Identified EEG→Image as the bottleneck via ablation and cross-modal CCA (Image→Text: 91% top-1).

### Optimisation Engineering - TSP (PSO / ACO)

[Repo](#)

Stability-focused metaheuristics with explicit convergence diagnostics and fixed-budget benchmarking.

- Adaptive inertia schedules; bounded velocity updates.
- Restart mechanisms to escape stagnation.
- Selective local search activation (cost-aware).
- Parameter sweeps; fixed-runtime convergence tracking.

### Simplify - Personal Systems Hub

[Live](#)

Designing and iterating a modular dashboard for tasks/knowledge/finance with an extensible data layer.

- Architecture-first build: separation between data model, logic layer, and UI; release pipeline via GitHub.

## Technical Skills

**Languages:** Python (primary), JavaScript, SQL, HTML/CSS

**Frontend:** React, p5.js (WebGL basics)

**Backend:** Flask, Node.js

**Cloud & Systems:** Azure, Docker, CI/CD, Linux, Git

**Focus:** Optimisation, evaluation design, systems architecture, automation

## Selected Links

[Report](#)

[GitHub](#)

[Simplify](#)

[CCU Demo \(Video\)](#) [CCU Demo](#)