

# Tom Murarik

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In my current role I lead projects under direct oversight of the senior leadership team, driving millions of pounds of savings in logistics costs. Leveraging mathematical skills, software development best practices and business acumen, I devise and deliver high-impact data science and optimisation projects. Enhanced by a pragmatic application of cutting-edge mathematical research, my agile team delivers efficient solutions at a fast pace across the business.

## Experience

**Senior Data Scientist**, Ocado Logistics, Hertfordshire

Jul 2025–Present

- Network optimisation: solving highly constrained facility location problems using **CP-SAT**.
- Multi-objective optimisation: finding optimal driver shifts by pairing **Monte Carlo simulations** with **metaheuristics**.
- ML forecasting: reduced error rate of Excel-based hourly sales forecasting processes by 40% with **time-series ML**.
- Simulation: wrote large-scale digital twin of the network, deployed on **GCP**, enabling millions in last mile savings.
- Refactoring of vehicle routing codebase to **Rust**; implementing cutting-edge vehicle routing algorithms such as [FILO](#).
- **HPC** development for large-scale routing simulations, incl. oversight over how to expand in-house compute.
- Leading upskilling initiatives for Ocado's analysts, incl. sessions on **Agentic AI** and advanced analytics concepts.
- Continuous collaboration with stakeholders to ensure all projects solve real, impactful business problems.

**Operational Research Software Developer**, Optrak Vehicle Routing Software, Hertfordshire

Sep 2023–Jul 2025

- Agile work in interdisciplinary teams; taking mathematical concepts from client spec to development to deployment.
- Development of meta- and hyper-heuristic architectures in **Scala** for a state-of-the-art vehicle routing optimiser.
- Design and deployment of ML pipelines with **PyTorch/Docker**, data engineering using **ZIO/PostgreSQL**.
- Improved optimiser performance while decreasing run-time, presented at the [VeRoLog](#) conference 2025.
- Stakeholder engagement: secured new business from cash-and-carry providers at industrial conferences.

**Software Engineer**, WeBuyAnyCard, Surrey

Jun 2021–Sep 2022

- Full time role for an e-commerce company: API development, databases and card-sorting robot arm prototyping.

## Education

University of Edinburgh

**MSc Operational Research with Data Science**: Distinction

Graduated Sep 2023

University College London

**BSc Chemistry**: First-Class Honours

## Skills

Mathematical Optimisation	Heuristics & Metaheuristics	Simulation
Python & Scala	Software Development	ML Forecasting

## Achievements and Interests

- Runner-Up in the Operational Research Society's [May Hicks Award](#) for my MSc Dissertation.
- For my MSc, I finished in the 98<sup>th</sup> percentile of the cohort and came top in several classes.
- Article contributor to the Operational Research Society's semi-annual publication, [Impact Magazine](#).
- Guest lectures at several universities and colleges, promoting Operational Research as a discipline.
- Awarded stipend by the UCL Provost for services to the Department of Chemistry.
- Competitive rower at UCL for three years; UCL first boat stroke at BUCS 2017.

## Publications

*A Multi-Objective Evolutionary Search Strategy for Feature Selection in Machine Learning Models*. Currently in [pre-print](#).

## References Upon Request

Dr Julian Hall – Lead Developer of [HiGHS](#) Solver, University of Edinburgh

Mr Martin Newman – Head of Product Engineering, Vodafone UK

Mr Timothy Pigden – Managing Director, Optrak