

# Gabriel Berk Pereira

 [berkpereira](#) |  [gabriel-berk-pereira](#)

## Education

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**DPhil Engineering Science, University of Oxford, UK** Oct 2024–Present

Research on numerical algorithms and software for very large-scale convex optimisation. Supervised by Prof. Paul Goulart.

**MSc Mathematical Modelling and Scientific Computing, University of Oxford, UK** Oct 2023–Sep 2024

Final average: Distinction (74%). Thesis “Scalable Subspace Methods for Unconstrained Optimisation” supervised by Prof. Coralia Cartis and awarded 79%.

**BEng Aerospace Engineering, University of Bristol, UK** Sep 2020–Jun 2023

Final average: First Class (83%, best in cohort).

## Work Experience

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**Teaching Assistant, Oxford Mathematical Institute (Oxford, UK)** Oct 2024–Jan 2025

- Assisted the lecturer (Dr. Jaroslav Fowkes) of the third-year course “B6.3 Integer Programming” at the University of Oxford’s Mathematical Institute.
- Provided written feedback on problem sheets submitted individually by 12 students every 2 weeks during term.
- Demonstrated and explained the solution to 1 problem per sheet, on the board for student class.

**Technology Consulting Intern, PwC LLP (Belfast, UK)** Jul 2023–Aug 2023

- Using Python, kickstarted procedural data generation technique for proof-of-concept machine learning model training for customer churn classification.
- Secured graduate return offer.

**Retail & Savings Technology Intern, M&G plc (Edinburgh, UK)** Jun 2022–Aug 2022

- Conducted qualitative research to reach recommendations on how to best generate leads for the firm’s financial advice business.
- Secured graduate return offer.

## Awards

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**Oxford–Ashton Memorial Graduate Scholarship (University of Oxford, UK)** Jun 2024

Awarded yearly, covering DPhil tuition and living costs in full for 3.5 years. Funded jointly by the Department of Engineering Science and University College, Oxford.

**Head of Department Prize (University of Bristol, UK)** Aug 2023

Awarded to the top final-year student in the BEng Aerospace Engineering programme.

**Roderick Collar Prize (University of Bristol, UK)** Dec 2022

Awarded to a second-year Aerospace Engineering student—out of cohort of 155—who “demonstrated academic excellence with other activities”.

**Top Graduate Prize (Guimarães Martins Sarmiento School, Portugal)** Nov 2020

Awarded yearly to the school’s graduate with the best academic results throughout secondary school.

# Programming Skills

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## **Python**

- Developed novel “hybrid subspace” methods for nonconvex optimisation as part of MSc research.
- Implemented tabular reinforcement learning algorithms based on dynamic programming and Monte Carlo methods for undergraduate research project.

## **Julia**

- Built novel fast first-order methods for large-scale convex conically constrained quadratic optimisation problems as part of DPhil research.