

# Layla Sadeghi Namaghi

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PhD in Computational Mathematics with a strong background in algorithm optimisation, advanced computational techniques, and mathematical modelling using MATLAB and Python. Eager to apply my programming and analytical expertise to a technical role where I can leverage these skills to drive innovation and business growth. Enthusiatic about science communication and effective collaboration. Keen programmer with additional experience in JavaScript, React, SQL.

## Education

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**PhD Computational Mathematics**, Cardiff University Jan 2021 – Present

- **Research Focus:** Developed and implemented advanced numerical methods and algorithms using MATLAB and Python to solve elliptic PDEs. Conducted extensive computational simulations to ensure high accuracy and efficiency. Supervision under Tim Phillips, funded by EPSRC.
- **Doctoral Training:** Excelled in courses in Adaptive FEM, Continuum Mechanics, Numerical Methods in Python, Theoretical PDEs, Mathematical Methods, and Advanced Fluid Dynamics.
- **Accolades and Leadership:** Winner of the departmental 3 Minute Thesis 2023 and Bake Your Thesis 2023 competitions. Served as Chair Student Representative for Postgraduate Mathematics, organising Student Staff Panels from 2022 to 2024. Presented novel findings at prominent conferences including Women's Retreat for Applied Mathematics, International Centre for Mathematical Sciences 2023, Welsh Mathematics Colloquium, 2022 and 2023, Applied and Computational Maths Seminar, Cardiff University 2023.

**Associate Fellowship AFHEA**, Cardiff University Oct 2022 – May 2023

- Achieved recognition for professional practice in teaching and learning through the AdvanceHE-accredited Education Fellowship Programme.
- Served as the cohort Student Representative, championing peer interests.

**MPhil Mathematical Biology**, Cardiff University Jan 2020 – Jan 2021

- **Research Focus:** Developed a deterministic model for  $Ca^{2+}$  and  $IP_3$  oscillations in egg cells at fertilisation, conducting modelling and analysis through MATLAB and Maple.
- **Interdisciplinary collaboration:** Worked closely with the School of Biosciences, integrating mathematical techniques with biological data to enhance the model's accuracy.

**1:1 BSc Mathematics with a Year Abroad**, Cardiff University Sept 2015 – June 2019

- **Grades:** Final year average of 83, overall average of 77. Modules included coding theory (84), algorithms and heuristics (90), optimisation (85), data mining (72), combinatorics (95).
- **Study Abroad:** Maths and engineering at Drexel University, Philadelphia. Took modules in control theory using MATLAB and PhD-level complex analysis, whilst immersing in a new culture and building connections.
- Undertook roles of Student Mentor, Mentor Consultant and Student Representative.

## Experience

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**Teaching Assistant**, Cardiff University Jan 2020 – June 2023

- Taught undergraduate modules (Foundations of Mathematics, Differential Equations, Linear Algebra) in both Welsh and English, demonstrating strong communication and organisational skills.
- Designed lesson plans, provided assessment and feedback, and facilitated group discussions.
- Integrated technology to enhance learning while fostering an inclusive environment.

**Maths Support Service Tutor**, Cardiff University

Sept 2022 – Sept 2023

- Provided drop-in tutoring for students and staff on mathematical and statistical queries, showcasing problem-solving and interpersonal skills.
- Offered empathetic and patient assistance, ensuring a supportive and approachable environment for all.

**Tutor**, We Solve Problems

Aug 2023 – Jan 2024

- Delivered problem-solving sessions for 12-16-year-olds, fostering structured thinking in a team environment. Instilled confidence and resilience among learners.

**Outreach Worker**, Cardiff University

Jan 2022 – Dec 2023

- Developed and ran interactive maths workshops, requiring creativity and adaptability to diverse audiences.
- Organised and presented at events such as Further Maths Support Programme Wales conference 2022 and 2023, ZNP University (Ukraine) Night of Science 2022, Maths Adventures Day (Cardiff Science Festival) 2023, Bridgend Seren Day 2023.

**Private Maths Tutor**

Jan 2020 – Present

- Tutored KS3, GCSE, and A-level students, employing innovative methods to convey complex concepts and inspire enthusiasm. Enhanced student engagement and tailored lessons to individual needs.

**Assistant Manager**, Pizza House

June 2019 – Jan 2021

- Recruited and trained staff demonstrating leadership and interpersonal skills.
- Oversaw shift scheduling and stock deliveries showcasing organisation.
- Successfully balanced duties with MPhil studies, highlighting time management and dedication.

**Skills and Achievements**

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**Technologies**

- Experienced in MATLAB, Python, Maple,  $\LaTeX$ .
- Some experience in JavaScript, React, SQL.

**Courses and achievements**

- Code First Girls course in SQL, sponsored by Admiral, 2023.
- Code First Girls course in JavaScript and winner of 'Best Class Project', sponsored by BAE systems, 2023.
- Code First Girls course in Python sponsored by Deloitte, 2021.
- UK Graduate Modelling Camp, Newton Gateway to Mathematics, 2021.
- Welsh Intermediate course, Welsh for All by Cardiff University, 2016-2017.
- French Advanced course, Languages for All by Cardiff University 2015-2016.
- Gold Crest award and 'Most Innovative and Adaptive Design' at the North Wales Big Bang competition, 2014.
- 1 week course at Bangor University in Electrical and Electronic Engineering, 2014.

**Languages**

- Native English speaker.
- Fluent Welsh speaker / Professional working proficient - GCSE First Language C grade.
- Basic proficiency in French - A level B grade, completed 4 French exchange programmes.

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References available upon request.