

Joseph J. Webb

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education

Doctor of Philosophy in Mathematics

University of Oxford, Worcester College

Supported by the EPSRC [EP/Z534870/1] through an iCASE studentship in collaboration with NAG Ltd.

Sep 2025–present

Oxford, UK

Master of Science in Mathematical Modelling and Scientific Computing

University of Oxford, Worcester College

The *Worcester College Mathematical Sciences Scholar*; recipient of a Mathematical Institute bursary for academic excellence; and winner of *The Kathryn Gillow Prize for the Best Disseration*.

Sep 2024–Sep 2025

Oxford, UK

Bachelor of Science in Mathematics and Physics

University of Warwick

Founder of *The Poincaré Project* which produced a yearly Mathematics, Physics and Computer Science magazine.

Sep 2021–Aug 2024

Coventry, UK

experience

Self-Employed

Electrical Inspector

Contracted electrical inspecting and testing of financial institutions and data centres in Central London.

Jan 2017–Aug 2021

London, UK

UK Government, Department of Digital, Culture, Media & Sport

Information Technology Support Technician

Provided 1st- and 2nd-line support and produced technical documentation.

Jun 2017–Jun 2017

London, UK

The Economist

Information Technology Operations Analyst

Created scheduled scripts to automate server tasks, and built software to optimise resolution of issues.

Feb 2020–Sep 2020

London, UK

Selfridges & Co.

Computer Services Analyst

Improved device rollout speed by developing a GUI application to perform device management.

Feb 2019–Oct 2019

London, UK

publications

Joseph J. Webb, Sadok Jerad, Coralia Cartis, *An Optimisation Framework for the Well-Conditioned Training of Physics-Informed Neural Networks*, *arXiv preprint*.

doi.org/10.48550/arXiv.2607.02194 ↗

Joseph J. Webb, Richard Beanland, Rudolf Römer, *Large-Angle Convergent-Beam Electron Diffraction Patterns via Conditional Generative Adversarial Networks*, *Ultramicroscopy*.

doi.org/10.1016/j.ultramic.2025.114198 ↗

projects

Article // How to Win Games with Quantum Strategies. *Poincaré Magazine* **2**, 23-27 (2024). ↗

Article // A Walk in the Quantum: Reinventing a World-Changing Algorithm. *Poincaré Magazine* **1**, 29-36 (2022). ↗

Code // Physics-Informed Neural Networks. A JAX framework for solving PDEs with physics-informed neural networks.

github.com/wephy/physics-informed-neural-networks ↗

Code // Quantum Walk. Emulator for quantum walks on directed graphs to speed up the classical PageRank algorithm.

github.com/wephy/quantum-walk ↗