JOSEPH WESTON

Senior Quantum Software Engineer

Redmond, Washington github.com/jbweston linkedin.com/in/jbostonweston

EXPERIENCE

Senior Quantum Software Engineer

Microsoft Quantum

August 2021 – present Redmond, WA

- Designed and implemented a state-of-the-art algorithm for reducing the the required size of quantum simulations. This led to a 10x improvement in simulation speed and memory usage.
- Designed and implemented a bespoke system for automating massively parallel physics simulations on Azure cloud, leveraging robust cloud computing primitives such as serverless compute and NoSQL databases.
- Worked with simulation engineers to optimize simulation code and educate on best practices for use of our computing resources
- Engaged with data warehousing team to design a robust solution for disseminating simulation data throughout Microsoft Quantum.

Software Development Engineer

Microsoft (contracted via Aquent LLC)

Feb 2020 – June 2021 Vancouver, CA

- Developed bespoke software libraries and tools for simulating components of a topological qubit
- Scaled computational infrastructure on Azure cloud computing to enable massive parallel computations

Scientific Software Developer

Qutech

Oct 2016 – Jan 2020 Delft, NL

- Furthered development of the quantum transport software Kwant, which has been used in 400+ research projects around the world
- Led the design and implementation of open source software for science and education
- Instructed courses on, and produced teaching materials for, scientific programming in Python at the Casimir research school

EDUCATION

Ph.D. Theoretical Physics

Université Grenoble Alpes

Oct 2013 – Oct 2016 Grenoble, FR

Thesis: Numerical Methods for Time-Resolved Quantum Nanoelectronics
Awarded the Springer prize for outstanding PhD theses

MSci. Physics with a Year in Europe

Imperial College London

Sept 2008 – June 2012 London, UK

First class honors (average grade 82%)

TECH SKILLS

Python | C | C++ | Haskell

Git | Bash | Terraform | Ansible

Code Review | Pair Programming

OPEN SOURCE

Kwant

Library for nanoelectronics simulations

Used around the world in 400+ research projects

Adaptive

Framework for parallel active learning

Zesje

SaaS platform for grading exams

Used in 50+ courses at Delft University of Technology

jupyter-sphinx

Run code snippets with Jupyter when building documentation

LANGUAGES

English	*Native Proficiency*
French	*Full Professional Proficiency*
Portuguese	*Limited Working Proficiency*

SOFT SKILLS

Detail-Oriented | Industrious | Enthusiastic | Quick Learner