

# Joseph Alexander Wilson

jo.alex.w@gmail.com [jollywatt.github.io](https://jollywatt.github.io) Cambridge, UK

Engineering PhD student at the University of Cambridge, interested in geometric algebra, statistical inference and computer graphics.

## Education

- 2024-present ○ PhD in Engineering, University of Cambridge, UK  
Applications of geometric algebra in engineering, supervisor Prof. Joan Lasenby.
- 2021–2022 ○ Master of Science with Distinction, Victoria University of Wellington, NZ  
Thesis [Geometric Algebra for Special Relativity and Manifold Geometry](#) supervised by Dr. Matt Visser, GPA 9/9.
- 2020 ○ Postgraduate Certificate in Science, University of Canterbury, NZ  
Literature review [An Overview of the Strong CP Problem and Axion Cosmology](#) supervised by Dr. Jenni Adams, GPA 9/9.
- 2017–2019 ○ Bachelor of Science with First Class Honours, University of Canterbury, NZ  
Honours project [Asymptotic Structure and Symmetries of FLRW Universes](#) supervised by Dr. David Wiltshire, GPA 9/9. Included summer research projects:
  - [Visualising the Freudenreich 1998 Model of the Galactic Bar and Disk](#)
  - [Computing Crystal Band Structures with CP2K](#)

## Publications

- 2021 ● [Explicit BCHD formula for Spacetime via Geometric Algebra](#)  
J. Wilson, M. Visser, Int. J. of Geometric Methods in Modern Physics

## Skills and Interests

- Broad interests in software, mathematics, pedagogy
- Open source [fletcher](#) (Typst diagramming package) [GeometricAlgebra.jl](#) (Julia),
- Languages English, French (CEFR B1)
- Hobbies Piano, modern jive dance
- Design Scientific typesetting, graphic design, web design
- Code Julia, Python, R, Jujutsu VCS / Git, Typst, Unix, Node, React

## Work experience

- References available on request
- 2022–2024 Statistical and Data Analyst, Statistics New Zealand

- Technical leader in the Statistical Computing Network, led R for Data Science book club.
- 2021 ○ Tutor and lab demonstrator, Victoria University of Wellington
- 2020 ○ Tutor and teacher's assistant, University of Canterbury

Awards ●

- 2024 ○ International Cambridge Scholarship
  - Prince of Wales Student for 2024-25
- 2021 ○ Wellington Master's by Thesis Scholarship
- 2019 ○ University of Canterbury Senior Scholarship
  - Summer Research Scholarship
- 2018 ○ Vice-Chancellor's Excellence Award
  - William Brent Wilson Memorial Prize
  - University of Canterbury Mathematics & Statistics Scholarship
- 2017 ○ Madam Tiong Guok Hua Memorial Prize in Science
  - Institute of Physics Prize