

# Alex Wendland

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## PERSONAL STATEMENT

Analytically-, efficiently- and ethically-minded mathematician, python programmer and data scientist. Thirsty for new knowledge, experience and ideas, I push myself to learn whilst searching out places to apply myself for the largest positive impact. I am driven by problem solving, automation and the development of those around me.

## EDUCATION

- 2015 – 2020 PhD in MATHEMATICS, **University of Warwick**, Coventry  
“Generalisations of Groups and Cayley Graphs” under the supervision of [Agelos Georgakopoulos](#)
- 2011 – 2015 Masters in MATHEMATICS, **University of Warwick**, Coventry  
1<sup>st</sup> Class Hons (91% average)
- 2004 – 2011 Secondary school, **Beechen Cliff School**, Bath  
A Levels: Further Maths ( $A^*$ ), Maths ( $A^*$ ), Physics ( $A$ )

## KEY SKILLS

Developer-level languages: Python and L<sup>A</sup>T<sub>E</sub>X  
Working-level languages: Java, Git, C, SQL, and JavaScript  
Tools: Github actions, Google suit, Docker, Kubernetes, and notion.  
Transferable: Mathematics, statistics, leadership, communication, problem solving, collaboration, agile organisation, research, relationship building, and teaching.

## EMPLOYMENT HISTORY

2021–CURRENT	<p><b>Data Scientist – CRYPTOCOMPARE, LONDON</b></p> <p>Cryptocompare is a tech startup who aggregate Cryptocurrency data. I am a data scientist, python developer, and cross-team problem solver.</p> <p><b>Consolidated order book index development</b></p> <p><i>Key skills:</i> <b>Data science, docker, product development, python, rabbitMQ, team coordination.</b></p> <p>I coordinated between the index and orderbook product teams to find a market ready, client-adjustable and computationally feasible index. I built a reusable testing environment with interchangeable docker components.</p> <p><b>Automated data monitoring</b></p> <p><i>Key skills:</i> <b>Data analysis, docker, github actions, kubernetes, python, team coordination, training.</b></p> <p>Coordinating with the technical support team and development operations I improved the quality and organisation of CryptoCompare's automated data quality monitoring. I developed a CI/CD pipeline using docker, github actions, Azure, and kubernetes deployment files. Supporting the teams with training seminars, coding examples, and code reviews.</p> <p><b>Data visualisation platform</b></p> <p><i>Key skills:</i> <b>Industrial-relation, leadership, market development, market research, relationship building.</b></p> <p>I researched and built relationships with data visualisation and analytics providers to display the quality of our orderbook product. I coordinate internally with nearly every team to represent our company's interests and support the development of this relationship.</p> <p><b>Orderbook Data Quality</b></p> <p><i>Key skills:</i> <b>Cloud storage, communication, data analysis, mentoring, problem solving, python.</b></p> <p>When developing the new orderbook system I evaluated the output of the new system and developed a set of key indicators of quality. I taught a data analyst to carry this analysis and integrated them in the development process.</p> <p><b>Orderbook snapshot regeneration</b></p> <p><i>Key skills:</i> <b>Big data, client-delivery, cloud storage, cross-team working, python development, unix shell, SQL.</b></p> <p>I wrote a program to review the health of the orderbook snapshots, identify bad quality snapshots, and then regenerate these. This was written using PEP 8 guidelines, code reviewed by the development team and documented. I taught the technical support team to run the program and QA the output. This is now run daily to deliver to a client and historically over TB's of data stored in Azure.</p> <p><b>Index methodology writing</b></p> <p><i>Key skills:</i> <b>Latex, mathematical formulation, teamwork, written communication.</b></p> <p>Working with the index team I learnt what our current service did and formulated this in mathematical terms that was rigorous and yet could be understood by lay readers. I converted the documentation into latex to improve presentation and upskilled the team to use overleaf for collaboration.</p> <p><b>Latency reporting</b></p> <p><i>Key skills:</i> <b>Client-facing, communication, data analysis, data visualisation, team coordination.</b></p> <p>I coordinated with multiple teams to provide an in depth analysis of the current latency statistics. I hosted multiple meetings with the client breaking down the sources of latency and understanding their key metrics to compare us to our competitors. I worked with the development team to improve internal recording of this data for future clients.</p>
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## Team development and organisation

*Key skills:* **Agile, communication, github, interviewing, jira, relationship-building, teaching.**

I created a data science team with a clear role, a cross-company jira board, weekly reporting, a relationship with the COO, and training in the weekly python seminar. I built up the team by interviewing and hiring two PhD student interns and a data analyst. I wrote an analysts handbook for team members to look up information and set up 3 weeks of python training on github.

2020–2021

## Civil Service, Science and Engineering Fast Stream – CABINET OFFICE, LONDON

The [Fast Stream](#) is a competitive three-year leadership programme focusing on developing individuals' communication, organisational and leadership skills.

### Advisory Council for the Misuse of Drugs

*Key skills:* **Project management, research, stakeholder management, team coordination, written communication.**

Within the ACMD I project managed high profile technical reports with multiple stakeholders: [ACMD advice on consumer cannabidiol \(CBD\) products](#) and [Consideration of barriers to research: part 1](#). I acted to support the academics on the council whilst managing internal and external stakeholders.

### Peoples survey

*Key skills:* **Communication, data analysis, statistics, teamworking.**

I analysed results of a staff survey across the whole of the Home Office to derive key targets and objects for my unit to increase inclusivity and diversity. After this I was asked to carry out a similar analysis for the whole department.

### Coffee Roulette

*Key skills:* **Agile, community building, google suit, javascript.**

To increase networking within my cohort during covid I set up a weekly coffee roulette. I used google forms to collect details with google sheets as a database and javascript within the sheet to send emails. I iteratively improved the process to allow people to go on holiday and change the frequency of matches after collecting feedback.

2011–2020

## Academia – UNIVERSITY OF WARWICK

Algebraic graph theory PhD student driven by problem-solving, teaching and community building.

### Academic record and publications

*Key skills:* **Problem-solving, research, written/verbal communication.**

I have always had a strong academic record, earning the Ron Lockhart Student Prize in 2013 and undertaking 2 funded research projects during my undergraduate degree. I have built a portfolio of solo and co-authored papers in leading journals within Algebra, Graph Theory, and Probability such as [Advances in Mathematics](#), [Annals of Applied Probability](#) and the [Journal of Graph Theory](#). Please find a full list of publications on my [website](#).

### Conferences and talks

*Key skills:* **Communication, consulting, machine learning, scheduling, teamwork.**

I have attended multiple conferences and spoken at many universities including: Cambridge, Iceland, Imperial College and Oxford. I like investing time to deliver my message in a clear and concise fashion, focusing on communicating the transferable ideas. I attended two European Study Groups with Industry where I worked with a group of mathematicians on an industrial problem. I worked on adversarial image classification for the MOD's [Defense, Science and Technology Laboratory](#) and scheduling problems for Heathrow airport.

### Lecturing and teaching

*Key skills:* **Communication, lecturing, mentoring, organisation, python, web development.**

I have taught in all levels and formats: lecturing masters level courses to helping underprivileged A-Level students. I use my emotional intelligence to understand the perspective of the student, my analytical mind set to break this problem down, and excellent verbal and written communication skills to convey enough information so the student can discover the solution themselves. For this I won a student voted prize in 2017. I recieved funding in 2013 from [JISC](#) to develop a virtual learning platform in django.

### Centre for Science and Policy, Cambridge

*Key skills:* **Machine learning, natural language processing, python, self-directed learning, SQL.**

I earned a funded 3 month UKRI policy internship where I taught myself Natural Language Processing (NLTK) to match policy makers to academic experts using the [Centre for Science and Policy's](#) database. I accessed CSaP's database using SQL and manipulated the data with python, developing an end product still used by the team today.

### Community building

*Key skills:* **Communication, leadership, organisation, teamwork.**

I was a member of multiple departmental committees and university societies, actively organised networking events and for 3 years chaired the main student forum for change within the department. I was part of the diversity committee when we earned the Bronze Athena Swan award in 2019. I organised the postgraduate seminar for a year and board games night for multiple years. I earned the "giving to Warwick prize" in 2014.

## INTERESTS AND ACTIVITIES

I enjoy cycling, hiking, climbing, podcasts, board games and politics. I am actively involved in effective altruism and have given the [Pledge](#).