Sadie L. **Bartholomew**

ⵉ Earth/Environmental Research Software Engineer

Academic (i.e. *long*) résumé; traditional *two-page* curriculum vitae also available upon request.

🌐 https://sadielbartholomew.github.io   ⌂ github.com/sadielbartholomew   Ⓘ orcid.org/0000-0002-6180-3603

@ sadielbartholomew@gmail.com   📍 RG2 area, Reading, Berkshire, United Kingdom   👤 she/her

Research Software Engineer with over seven years' experience software engineering in the field of earth and environmental research, specialising in atmospheric science. Interests include (but are not limited to): (meta)data standards; high-performance computing; green computing; digital twins; workflows; simulation infrastructure; creative coding; and open-source software.

Experience

Present **Feb. 2024**	**Sadie Bartholomew Algorithm Solutions** *Private contractor* Conducting ad-hoc contract research software engineering work, such as for the University of Edinburgh.	**Reading, UK**

Present
Jan. 2020

National Centre for Atmospheric Science & University of Reading | Dept. Meteorology   **Reading, UK**
Computational Scientist

On the core NCAS-CMS (NCAS Computational Modelling Services) team, providing software engineering support and delivering key underpinning infrastructure for the UK earth-system science community. Individual focus has varied by tenure but has generally been towards one of three overarching goals:

- ✧ developing, maintaining, optimising and consulting on (user support, etc.) open-source tooling related to the CF Conventions metadata standard, primarily `cf-python`, `cfdm` and `cf-plot`, as well as furthering and advocating for the standard such as providing information management, support and training;
- ✧ contributing to software products useful to the community making targeted use of the above libraries;
- ✧ delivering documentation infrastructure for model inter-comparison, notably CMIP6 and beyond.

Indicators of role-based performance include being moved directly from a fixed-term to a permanent contract and being awarded an additional spinal point increment in 2023.

Nov. 2019
Oct. 2017

Met Office | Modelling Infrastructure Support Systems Team [🌐]   **Exeter, UK**
Scientific Software Engineer

Developing, maintaining and supporting users of the workflow engine `cylc` and infrastructure systems `rose` and `fcm` used to configure and run scientific software for both operational forecasting and research.

- ✧ For example for `cylc`, implemented suite host selection and asymmetric cryptography; wrote a syntax lexer and software-checking utility; converted the full documentation from raw LaTeX to Sphinx.
- ✧ For instance for `rose`, overhauled web applications, including porting a Python 2 utility built upon the `cherrypy` web framework to Python 3 and the `tornado` framework.
- ✧ In general, made numerous improvements and bug fixes; registered numerous bug reports, feature ideas and user requests; and co-delivered internal training courses and an internal update seminar.

March 2017
Dec. 2015

Coltraco Ultrasonics [🌐]   **Durham, UK**
Student Research Assistant

Conducting scientific and technical research relating to ultrasonic measurement on a remote, part-time basis, assimilating into reports contributing to research and development of new instrumentation.

Education

June 2017
Oct. 2012

Durham University | St Chad's College   **Durham, UK**
MPhys (Hons.), Integrated Masters in Physics

- ✧ **Final-year computational project** entitled '*Searches for boosted top quarks*', evaluating and refining top-tagging algorithms implemented in C++, as applied to simulated LHC proton-proton scattering events.
- ✧ **Undergraduate physics syllabus (first three years of course) plus elective masters-level modules** on Advanced Quantum Theory, Particle Theory, Cosmology and Planetary Systems.
- ✧ **Notable extracurricular activities:** Chess Society, captaining college team with continued participation as an alumna; Science and Technology Editor for two student publications, Palatinate Newspaper (2014-15) and The Bubble Magazine (2013-14) receiving the Hunter Davies Prize for Journalism 2014.

July 2012
Sept. 2007

Ponteland Community High School   **Northumberland, UK**
Secondary (School) Education

- ✧ **A levels**: Physics (A*), Chemistry (A*), Mathematics (A*), Further Mathematics (A), Critical Thinking (A)
- ✧ **Other:** Extended Project Qualification (A*), CREST Gold Award, Nuffield Summer Research Placement
- ✧ **GCSE:** 11 A* qualifications including French.

Recognition and Awards *Recent/2020+*

'Open Science Recognition Prize' 2024 | American Geophysical Union   *Named team member* [🌐]   Dec. 2024

✧ The CF Conventions 'Major Contributors to CF' team was recipient of this prize recognising "outstanding work in advancing Open Science related to Earth and space science and its impact globally" and I was named on the team for my roles as co-author and member of the 'Information Management and Support Team'.

First Prize, Software Sustainability Institute Collaborations Workshop 2023 Hack Day   *On winning team*   May 2023

✧ Member of a small team who won first prize at the Hack Day at the annual Collaborations Workshop for our project conceiving, prototyping and presenting a new tool 'CATS: the Climate-Aware Task Scheduler'.

Fellowship, 2022 cohort | Software Sustainability Institute [🌐]   *(Continuing) Fellow*   Jan. 2022 - Present

✧ Awarded a funded fellowship from the Software Sustainability Institute (SSI), an organisation dedicated to improving software in research. This recognised me as an emergent ambassador of good computational practice in the earth science domain, with a focus on high-performance computing (HPC) and green software.

✧ Duration for funding, totalling £3,000, was 15 months (from Jan. 2022, though extended due to knock-on effects of the COVID-19 pandemic) but the programme encourages continued engagement ("Once a Fellow, always a Fellow") and provides opportunity to apply for further funding. Effort and funding went, and continue, primarily towards:

   ✧ purchase of components for a computer cluster built around 8 Raspberry Pi 4 Model B computers to be used in particular for HPC training and outreach/educational events as well as towards CATS version 2 testing;

   ✧ attendance at annual SSI Collaborations Workshops aiming to form new collaborations (successful outcomes include joining a community dedicated to green computing and the CATS team, see above).

Software and Open Source Contributions

Only listing more significant contributions (those made over a sustained period *or* 1+ non-trivial/minor merged Pull Request *or* any contribution to a particularly widespread package) and excluding links to contribution via code review, issue tracking and discussions. For a more comprehensive record, explore the activity log on the GitHub profile for user 'sadielbartholomew'.

✧ **CF Conventions related tools**: `cf-python` - *commits*, *contribution plots*; `cfdm` - *commits*, *contribution plots*; `cf-plot` - *commits*, *contribution plots*; `cfunits` - *commits*, *contribution plots*; `cf-view` - *commits*, *contribution plots*; `cf-conventions` - *commits*, *contribution plots*; `cfa-conventions` - *commits*, *contribution plots*.

✧ **Community tools**: `VISION-toolkit-v2-development` - *commits*, *contribution plots*; `VISION-toolkit` (mostly developed outside of GitHub) - *repository*; `cats` - *commits*, *contribution plots* `JUNE` - *commits*, *contribution plots*; `esmf` - *commits*; `IPART` - *commits*.

✧ **Documentation infrastructure**: `cmip6` - *commits*, *contribution plots*; `pyesdoc` - *commits*; `esdoc-machine-fe` - *commits*; `esdoc-technical` - *commits*; ~60 `ES-DOC-INSTITUTIONAL/*` institutionally-focused repositories - *full repository listing*, *illustrative commits on a specific institution repository*.

✧ **Training and educational resources**: `cf-tools-training` - *commits*, *contribution plots*; `ncas-isc` - *commits*, *contribution plots*; `the-turing-way` - *repository* [all commits co-authored so no direct user listing], *contribution table*; `sphinx-from-scratch` - *repository*.

✧ **Met Office software stack**: `cylc-flow` - *commits*, *contribution plots*; `cylc-doc` - *commits*, *contribution plots*; `rose` - *commits*, *contribution plots*; `isodatetime` - *commits*; `owa_checker` - *commits*.

✧ **Web and presentation resources**: `cf-convention.github.io` - *commits*, *contribution plots*; `cylc.github.io` - *commits*, *contribution plots*; `cms-website` - *commits*, *contribution plots*; `presentations` - *commits*, *contribution plots*.

✧ **Wider Python ecosystem**: `numpy` - *commits*; `matplotlib` - *commits*; `netcdf4-python` - *commits*; `cartopy` - *commits*.

✧ **Hackathon including Hacktoberfest participation**: `oggm` - *commits*; `astropy` - *commits*; `browser-history` - *commits*; `Bowler` - *commits*; `dvc` - *commits*.

✧ **Personal (including hobby) projects**: `creative-matplotlib` - *repository*; `cf-standard-names-linguistics` - *repository*; `ocean-chroma-theme` - *repository*.

Publications, Posters and Conference Proceedings J=Journal, P=Poster, C=Conference

[J.5] **Virtual Integration of Satellite and In-situ Observation Networks (VISION) v1.0: In-Situ Observations Simulator** [🔗]
Maria Rosa Russo, <u>Sadie L. Bartholomew</u>, David Hassell, Alex M. Mason, Erica Neininger, A. James Perman, David A. J. Sproson, Duncan Watson-Parris, and Nathan Luke Abraham
Geosci. Model Dev., 2025   **[GMD'25]**

[P.1] **Towards an explorer tool for visualisation of grammatical patterns in the CF Standard Names through decomposition into n-grams** [🔗]
<u>Sadie L. Bartholomew</u>
American Geophysical Union Annual Meeting 2023, session 'IN31C: CF and NetCDF: 30 Years of Wide-Open Science'   **[AGU'23P]**

[J.4] **What Do We (Not) Know About Research Software Engineering?** [✎]
Anna-Lena Lamprecht, Carlos Martinez-Ortiz, Michelle Barker, <u>Sadie L. Bartholomew</u>, Justin Barton, Neil Chue Hong, Jeremy Cohen, Stephan Druskat, Jeremy Forest, Jean-Noël Grad, Daniel S. Katz, Robin Richardson, Robert Rosca, Douwe Schulte, Alexander Struck, Marion Weinzierl
Journal of Open Research Software, 2022 **[JORS'Dec22]**

[J.3] **The Research Software Encyclopedia: A Community Framework to Define Research Software** [✎]
Vanessa Sochat, Nicholas May, Ian Cosden, Carlos Martinez-Ortiz, <u>Sadie L. Bartholomew</u>
Journal of Open Research Software, 2022 **[JORS'Mar22]**

[C.2] **NetCDF Climate and Forecast Aggregation (CFA) Conventions** [✎]
David Hassell, Jonathan Gregory, Neil Massey, Bryan Lawrence and <u>Sadie L. Bartholomew</u>
American Geophysical Union Annual Meeting 2021, session 'IN45D: Advancing the CF Conventions for NetCDF' **[AGU'21]**

[J.2] **cfdm: A Python reference implementation of the CF data model** [✎]
David Hassell and <u>Sadie L. Bartholomew</u>
Journal of Open Source Software, 2020 **[JOSS'20]**

[C.1] **Advances in Collaborative Documentation Support for CMIP6** [✎]
Charlotte Pascoe, David Hassell, Martina Stockhause, Mark Greenslade and <u>Sadie L. Bartholomew</u>
European Geosciences Union General Assembly 2020, session
'ESSI2.1 Metadata, Data Models, Semantics, and Collaboration' **[EGU'20]**

[J.1] **Workflow Automation for Cycling Systems: The Cylc Workflow Engine** [✎]
Hilary Oliver, Matthew Shin, David Matthews, Oliver Sanders, <u>Sadie L. Bartholomew</u>, Andrew Clark, Ben Fitzpatrick, Ronald van Haren, Rolf Hut and Niels Drost
Computing in Science & Engineering, 2019 **[CSE'19]**

Standards and Technical Documentation (Co-)Authorship

[T.2] **NetCDF Climate and Forecast Aggregation (CFA) Conventions** [✎]
David Hassell, Jonathan Gregory, Neil Massey, Bryan Lawrence and <u>Sadie L. Bartholomew</u>
Describes how a netCDF file can be used to describe a dataset distributed across multiple other data files. **[CFA]**

[T.1] **NetCDF Climate and Forecast (CF) Metadata Conventions** [✎]
Brian Eaton, Jonathan Gregory, Bob Drach, Karl Taylor, Steve Hankin, John Caron, Rich Signell, Phil Bentley, Greg Rappa, Heinke Höck, Alison Pamment, Martin Juckes, Martin Raspaud, Randy Horne, Jon Blower, Timothy Whiteaker, David Blodgett, Charlie Zender, Daniel Lee, David Hassell, Alan D. Snow, Tobias Kölling, Dave Allured, Aleksandar Jelenak, Anders Meier Soerensen, Lucile Gaultier, Sylvain Herlédan, Fernando Manzano, Lars Bärring, Christopher Barker and <u>Sadie L. Bartholomew</u>
Describes the CF conventions for climate and forecast metadata designed to promote the processing and sharing of files created with the netCDF Application Programmer Interface. **[CF]**

Supervision, Training and Teaching Roles

Research Placements and Experiences   *Supervisor to two students*   July - Sept. 2024
✦ Individually supervised, hosting in-office, two local school Year 12 students each on two-week placements as part of the 'Research Placements and Experiences' (formerly 'Nuffield Research Placements') scheme, to contribute towards the NCAS 'Community for Change' initiative.
✦ As an outcome five new code recipes, designed by the students, will be added to the cf-python documentation.

NCAS 'Introduction to Scientific Computing' training course [🌐] [○] *Co-organiser and co-delivery* Early 2024 - Present
✦ Helped, and doing so going forward, to organise, create content for, and co-deliver in-person the NCAS 'Introduction to Scientific Computing' atmospheric science focused training course (held roughly annually) starting from the one held over a week in Nov. 2024. Working to synergise this with the NCAS 'Data Analysis Tools' training (see below).

NCAS Early Career Symposium [🌐] *Co-organiser and co-delivery*   Jan. 2024 - Present
✦ Helped, and doing so going forward, to organise and deliver the annual NCAS Early Career Symposium, beginning with the inaugural event 'Harmony in the Skies: Bridging Horizons in Atmospheric Science' held in March 2024.
✦ Contribution included co-producing content and co-presenting on software and data standards.

CF Conventions Training [🌐] *Co-founder, co-organiser and co-delivery*   Summer 2022 - Present

✦ Co-founded the CF Training Committee to instigate, organise and advertise new training dedicated to the CF Conventions for researchers, RSEs and data managers etc. Towards this, co-organised and produced materials for the first ever CF Training Workshop held in Sept. 2022 and presented on the training (e.g. see **AGU'23C**) to encourage new engagement.

The Carpentries [✳] *Certified Instructor*   Summer 2022

✦ Took the dedicated training and test to qualify as a Certified Instructor for The (Software, Data & Libraries) Carpentries, an international group with the aim to "teach foundational coding and data science skills to researchers worldwide".

Learning to Code Programme [🌐] *Formal mentor to one graduate student*   Autumn 2021

✦ Individually mentored (remotely) in Python a psychology graduate in 2021 as part of the Software Sustainability Institute's 'Learning to Code' mentorship programme for her project entitled 'Manipulation of data stored in spreadsheets using Python tools' (see her blog post summarising the project).

NCAS 'Data Analysis Tools' training course [🌐] [🔗] *Co-organiser and co-delivery*   Feb. 2020 - Present

✦ Jointly organising and delivering the NCAS 'Data Analysis Tools' training course, last held in person in March 2020 (then postponed due to the COVID-19 pandemic). We have since updated the course materials and aim to start running the course more regularly again, starting summer 2025.

Further Academic Service

RSEConUK'24 'Finding the Weather and Climate RSE Community' session [🌐] *Panel member (by invitation)* Sept. 2024

✦ Joined a panel of five invited speakers within the Birds of a Feather session to discuss audience-submitted questions related to the theme of research software engineering for/within the field of weather and climate research.

CF Workshop 2023 [🌐] *Co-organiser*   Throughout 2023

✦ On the organising committee for the CF Workshop 2023, an international workshop held virtually in October 2023.

Institute of Computing for Climate Science (ICCS) Summer School '23 [🌐] *Panel member (by invitation)*   July 2023

✦ Joined four other invited panel members for a panel discussion on 'The Importance of Software Engineering Good Practices in Climate Science' at the 2023 ICCS Summer School.

SIAM CSE '23, 'Advances in High Performance Computing for Earth Science' session [🌐] *Co-convener*   Early 2023

✦ Co-convener of the hybrid session 'MS354 Advances in High Performance Computing for Earth Science - Part I of II' at the SIAM (Society for Industrial and Applied Mathematics) Conference on Computational Science and Engineering, including introducing parts of the session in-person in Amsterdam in March 2023.

RSEConUK'22 'Coding Confessions' session [🎥] *Panel member*   Sept. 2022

✦ Joined a panel (with six other panel members) discussing common mistakes made in software.

ExCALIBUR research programme ExCALIData project [🌐] *Knowledge Exchange Coordinator*   Mid. 2022 - Present

✦ Took over from a colleague to act as ExCALIBUR Knowledge Exchange Coordinator for the 'ExCALIData' project, attending meetings on behalf of the project team to coordinate and collaborate with others across the wider programme.

AGU Fall Meeting '21, 'Accelerating Earth System Predictability: Advances in High-Performance Computing, Numerical Modeling, Artificial Intelligence, and Machine Learning' session   *Co-convener and chair*   Late 2021

✦ In virtual capacity, co-convener of the 'III eLightning (IN11C)' component and chair of the 'II Oral (IN22A)' and 'IV Poster (IN15C)' components of the four-component session 'Accelerating Earth System Predictability: Advances in High-Performance Computing, Numerical Modeling, Artificial Intelligence, and Machine Learning' at the AGU (American Geophysical Union) Fall Meeting held in December 2021.

SeptembRSE, Walkthroughs and Workshops Team [🌐] *Co-organiser*   Mid. 2021

✦ On the conference organising committee, specifically the 'Walkthroughs and Workshops Team' for SeptembRSE, the Fifth Conference of Research Software Engineers (fully virtual due to the COVID-19 pandemic).

CF Conventions 'Information Management and Support Team' member [🌐] *(Active) team member* Jan. 2021 - Present

✦ Member, by initial invitation, of the formal team responsible for "maintaining the [CF] conventions, enabling discussions and decisions, communication and record-keeping", for example by helping to incorporate continuous integration into the publication workflow and automate aspects of the standard name proposal workflow, plus improving the website.

Performance optimisation of June, a COVID-19 epidemiology model [🔗] *Team member*   Autumn 2020

✦ Part of a small team from NCAS-CMS who worked with a team from Durham University Physics Dept. and the NHS to develop and optimise a new COVID-19 epidemiology model.

✦ We produced an $\mathcal{O}(100)$ latency speedup to the pre-alpha stage, receiving formal acknowledgement in the release paper.

Journal of Open Source Software [🌐] *Reviewer* June 2020 - Present
- ✧ Formal review in traditional two reviewer process for a number of papers seen through to publication, such as:
  - ✧ 'IPART: A Python Package for Image-Processing based Atmospheric River Tracking' [🌐]
  - ✧ 'OpenSCM Two Layer Model: A Python implementation of the two-layer climate model' [🌐]
  - ✧ 'qgs: A flexible Python framework of reduced-order multiscale climate models' [🌐]

Presentations and Demonstrations

Not including talks/demos given internally to immediate group/organisation e.g. any given at NCAS-CMS weekly meetings and away days, Met Office guilds and community of practices, etc. Also excluding talks given as part of training where already covered in a previous section. Links are to slides, where relevant/available, or video recordings.

Key: 💬 Talk ⋮ 🔧 Demo ⋮ [👤+] Co-presented with others ⋮ [✉] Invited to (as opposed to applied for)

💬 **'Reducing the impact of energy consumption from computing with CATS, The Climate Aware Task Scheduler'[🔗]**
- ✧ Computing Insight UK '24 Dec. 2024 (Manchester, UK)

💬 [👤+] [✉] **'Finding the Weather and Climate RSE Community: RSE at NCAS' [🔗]**
- ✧ The Eighth Conference of Research Software Engineering (RSEConUK'24) Sept. 2024 (Newcastle, UK)

💬 [👤+] **'VISION: towards seamless integration of Model, Satellite and In-Situ Observation data' [🔗]**
- ✧ NCAS Staff Meeting '24 July 2024 (Blackpool, UK)

💬 **'Recommendations for software tools and best practice' [🔗]**
- ✧ University of Reading Dept. Meteorology Research Away Day '24 June 2024 (Reading, UK)

💬 [👤+] **'Best Practices in Green Software: Principles, Patterns and Tools' [🎥]**
- ✧ Software Sustainability Institute Collaborations Workshop '24 May 2024 (Warwick, UK)

💬 [👤+] [✉] **'Best practices in data and software: 1. Communities and standards' [🔗]**
- ✧ NCAS 'Harmony in the Skies: Bridging Horizons in Atmospheric Science' Symposium March 2024 (Leeds, UK)

💬 **'Training By and For the CF Community: An Example of Community Engagement' [🔗]**
- ✧ AGU Annual Meeting '23 Dec. 2023 (San Francisco, USA)

💬 [✉] **'CF Training: where to find existing resources and how to request future topics' [🔗]**
- ✧ CF Workshop '23 Oct. 2023 (Remote)

💬 **'Better Software, Better (Atmospheric) Research' [🔗]**
- ✧ NCAS Staff Meeting '23 July 2023 (Daventry, UK)

💬 **'The soft side of code review and why it matters' [🔗]**
- ✧ 2023 RSE South Workshop May 2023 (Reading, UK)

💬 [✉] **'On Machines and CPMIP Metrics Underlying CMIP Simulations' [🔗]**
- ✧ SIAM Conference on Computational Science and Engineering '23 March 2023 (Amsterdam, NL)

💬 [✉] **'CF training: overview and discussion' [🔗]**
- ✧ CF Workshop '22 Sept. 2022 (Santander, ES)

💬 [✉] **'Status of ES-DOC' [🔗]**
- ✧ IS-ENES3 Second General Assembly Oct. 2021 (Remote)

💬 [✉] **'Standard names analyses and tooling: aims and preliminary work' [🔗]**
- ✧ CF Workshop '21 Sept. 2021 (Remote)

💬/🔧 **'Exploring and creating custom Emacs themes' [🔗]**
- ✧ RSE Community 'M-x Research' weekly talks June 2021 (Remote)

💬 **'The ES-DOC website and Further Info URL as portals for exploring CMIP6' [🔗]**
- ✧ Reading Dept. Meteorology (+ MOAP) Lunchtime Seminar Programme April 2021 (Remote)

💬 [👤+] [✉] **'Introducing the Earth System Documentation (ES-DOC) project for CMIP6' [🔗]**
- ✧ NICEST2 hackathon on FAIR climate data March 2021 (Remote)

🔧 **'Configuring Sphinx from scratch: making your own documentation & making your documentation your own'** [⚲]

✧ SORSE (A Series of Online Research Software Events) Nov. 2020 (Remote)

💬+🔧 [✉] **'cfdm, cf-python & cf-plot: Python data tools for CF-netCDF' with practical** [⚲]

✧ ESiWACE Summer School on Effective HPC for Climate and Weather '21 Aug. 2021 (Remote)
✧ ESiWACE Summer School on Effective HPC for Climate and Weather '20 Aug. 2020 (Remote)

💬 [👥+] **'Pursuing and supporting reproducible workflows for all with Cylc'** [⚲]

✧ The Fourth Conference of Research Software Engineering (RSEConUK'19) Sept. 2019 (Birmingham, UK)

Engagement and Outreach

'Science in Parallel' podcast episode 'Sadie Bartholomew: Patterns in Computing and Art' [🌐] *Invited feature guest*
Nov. 2024

✧ Invited to be the individual subject of an episode for 'Science in Parallel', a USA-based podcast "about people and projects in computational science" due to interest in work due to be displayed for the 'Art of HPC Display' at SC24 (see item below). Interviewed remotely in Sept. 2024 with the episode broadcast to coincide with SC24.

'Art of HPC Display', The International Conference for High Performance Computing, Networking 2024 (SC24) [🌐]
Exhibitor Nov. 2024

✧ Four entries of creative coding designs selected for inclusion and exhibited at the 'Art of HPC Display' poster session at SC24: 'Collatz Kaleidoscope', 'Collatz Residuals', 'Connections in Rotation', 'Undulations in Rotation'.

Society of Research Software Engineering Blog, 'Weather and Climate RSECon24 Birds of a Feather Session Retrospective Blog Post' [🌐] *Co-author* Oct. 2024

✧ Co-produced a reflection upon the weather and climate research software engineering interest session held at RSECon24.

SSI Blog Post 'Tracking the environmental impact of research computing' [🌐] *Co-author* Aug. 2023

✧ Co-produced an article to educate on, and advocate for, greener research computing practice.

'Code for Thought' podcast episode 'Green Computing at the RSE Conference 2024 in Newcastle' [🌐] *Invited guest*
May 2023

✧ Represented the CATS team, alongside one other team member, invited to speak on the 'Code for Thought' podcast episode focusing on green computing (see 'Chapters' → '26:29, Sadie Bartholomew & Colin Sauzé').

'The Turing Way' handbook chapter 'Environmental Impact of Digital Research' [🌐] *Contributor* Summer 2023

✧ Contributed to 'The Turing Way', a "handbook to reproducible, ethical and collaborative data science", notably co-writing, co-reviewing and overseeing to publication a new chapter 'Environmental Impact of Digital Research'.

Meteorology Dept. Research Blog Post, 'What's that data? Why and how the geoscientific community is forging metadata standards' [🌐] *Author* Jan. 2021

✧ Advocated for the importance of metadata standards to the department and wider weather and climate community.

Computing Experience

Key: [_] beginner, some experience ⋮ [=] competent, more experience ⋮ [≡] proficient, abundant experience

Programming languages	Python [≡], Bash (sh, zsh and other shell scripting) [≡], C++ [=], JavaScript [=], SQL [=], C [_], Lisp (Emacs and Common flavours) [_], Julia [_]
Markup languages	Markdown [≡], reStructuredText [≡], HTML [≡], LaTeX [≡], YAML [=], TOML [=], Emacs Org mode [=], XML [_], INI [_]
Web technologies	CSS [=], Vue.js [=], Bootstrap [=], jQuery [=], Sass [_]
Operating systems	Linux [≡] esp. Ubuntu [≡] and Arch [=] (preferred) flavours, Windows [≡]
Version control	git [≡] (preferred), SVN [_]
Scheduling	at [≡], Cylc [≡], cron [=], Slurm [_], PBS [_], Airflow [_]
Development environment	Emacs [≡] (preferred), Visual Studio Code [_]
Infrastructure	Tier-1, -2 and -3 High-performance Computing facilities [≡], e.g. JASMIN [≡] and ARCHER2 [_], Cloud Computing [_]
Services and processes	User support [≡], Continuous Integration e.g. with GitHub Actions [=], User Experience (UX design etc.) [_], Servers [_], Database Management [_], DevOps [_], Project Management Frameworks e.g. agile [_]

Language Skills

English	*Fully fluent* (native speaker)
French	Currently *high A1 level* of CEFR: GCSE (lower school) qualification (A* grade) in 2012, resumed incremental learning 2021+ using Duolingo app (~1000 day 'streak') combined with some self-study of grammar books and writing with pen pal. Aiming for eventual B2 level.
German	Currently *high A1 level* of CEFR: learning 2021+ using Duolingo app (~1000 day 'streak') combined with some self-study of grammar books. Aiming for eventual B1 level.

Conference and Workshop Attendance

Only listing major conferences/workshops i.e. major regional, national or international. Grouped by related domain/theme. Attended in-person unless marked as 'remote' (hybrid event which attended remotely) or 'virtual' (fully virtual event).

Key: 💬 Presented talk ⋮ 🖼 Presented poster ⋮ 🗎 Co-organised overall event ⋮ 💼 Co-convened session(s)

👥 Sat on session panel ⋮ </> Led Hackathon ⋮ 🔧 Gave Demo ⋮ [✉] Invited to (as opposed to applied for)

Research Software Engineering	RSEConUK'24 💬 [✉] 👥 [✉], RSEConUK'23, RSESouth'23 💬, RSEConUK'22 👥 [✉], SeptembRSE (i.e. RSEConUK'21, virtual) 🗎, SORSE (i.e. RSEConUK'20, virtual) 🔧, RSEConUK'19 💬 [*RSEConUK ≡ Annual (UK National) Conference for Research Software Engineering*]
Computing & Computational Science	CIUK'24 💬 [*CIUK ≡ Computing Insight UK*], SIAM CSE'23 💼 💬 [✉] [*SIAM CSE ≡ SIAM (Society for Industrial and Applied Mathematics) Conference on Computational Science and Engineering*]
(Meta)data and Standards	CFW'24 </>, CFW'23 (virtual) 🗎 💬 [✉], CFW'22 💬 [✉], CFW'21 (virtual) 💬 [✉], CFW'20 (virtual) [*CFW ≡ CF Conventions Workshop*]
Geo-/Earth Science	AGU'23 💬 🖼, AGU'21 (remote) 💼 💬 [✉] [*AGU ≡ American Geophysical Union Annual (formerly Fall) Meeting)*]
Modelling/Infrastructure	IS-ENES3-GA'23, IS-ENES3-GA'21 (virtual) 💬 [✉] [*IS-ENES3-GA ≡ IS-ENES3 (third phase of the distributed e-infrastructure of the European Network for Earth System Modelling) General Assembly*]

References

Available upon request.