

SADIE L. BARTHOLOMEW

Scientific Software Engineer seeking new challenges

Explore: [sadielbartholomew on GitHub](#)

[Sadie_Bartholomew on ResearchGate](#)

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Note: text is hyperlinked throughout this PDF to direct to relevant resources.



SOFTWARE EXPERIENCE

Foundation Scientific Software Engineer [October 2017 - present]

Met Office, Modelling Infrastructure Support Systems team

- Developing & maintaining the Python-based open-source infrastructure systems *Cylc* & *Rose* used to configure & run scientific software for both operational forecasting & research. For example:
 - added logic for host selection to the *Cylc* core scheduling code;
 - converted the entire *Cylc* documentation from *LaTeX* to *Sphinx*;
 - ported a *Rose* utility from Python 2 to 3, & *CherryPy* to *Tornado*;
 - packaged the core *Cylc* repository for *conda* via *conda-forge*;
 - registered numerous bug reports, bug fixes, user requests, & ideas.
- Supporting users of *Cylc*, *Rose* & other systems: answered queries verbally, on relevant forums, & by email; co-delivered internal training courses; & co-presented an internal update seminar & externally at the *Fourth Conference of Research Software Engineering*.

Independent Development Contributions [2016+]

Open-source projects & personal mini-projects, mostly via GitHub

- Notably completed *Hacktoberfest 2018* by contributing to three new Python projects, & built scripts for creative designs using *matplotlib*.

RESEARCH & WRITING EXPERIENCE

Student Research Assistant

[December 2015 - March 2017]

Coltraco Ultrasonics Ltd

- Conducting scientific & technical research (usually) independently on a remote, part-time basis & assimilating into written reports, for example making recommendations for product purchases & solutions.

Science and Technology Editor

[2013 - 2014; 2014 - 2015]

The Bubble Magazine; Palatinate Newspaper

- Sourcing & writing articles to deadlines for two separate student publications, receiving the *Hunter Davies Prize for Journalism* in 2014.

EDUCATION

MPhys (Hons) Integrated Masters in Physics (II:i)

[October 2012 - June 2017]

Durham University

- Final-year computational project entitled 'Searches for boosted top quarks', evaluating & refining top-tagging algorithms, implemented in C++, as applied to simulated LHC proton-proton scattering events.
- Undergraduate physics syllabus plus elective masters-level modules on Advanced Quantum (Field) Theory, Particle Theory & Cosmology.

Secondary Education

[2007 - 2012]

Ponteland Community High School

- A levels: Physics (A*), Chemistry (A*), Mathematics (A*), Further Mathematics (A), Critical Thinking (A), Extended Project (A*)

LANGUAGES, SYSTEMS

Key: years (○ being one) of experience
using: professionally (●) | as a student (◐) | for personal projects (◑). ★ indicates preferred.

Languages:

Python : ● ● | ● ● | ● ●

Unix shell (★ bash) : ● ● | ● ● | ● ●

C++ : | ● |

Web (HTML, CSS & JavaScript) : ● | | ●

Version control: git (& GitHub) ★ | SVN

Environment/OS: Linux ★ | Windows

SOFTWARE SKILLS

planning | development | code review

design patterns | documentation writing

testing (unit, regression & integration)

version control | user support & training

(distributed) collaboration | automation

packaging | open-source contribution

retrospection | continuous learning

PUBLICATIONS

- H. Oliver et al., 'Workflow Automation for Cycling Systems: The *Cylc Workflow Engine*', published in *Computing in Science & Engineering*, 2019 (DOI: 10.1109/MCSE.2019.2906593)

INTERESTS

Technical Software

Creative Software

Mathematics

Chess

Art

Guitar

REFERENCES

Available on request.