

SADIE L. BARTHOLOMEW

Scientific Software Engineer seeking new challenges

Explore: [sadielbartholomew](https://www.researchgate.net/profile/Sadie_Bartholomew)

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Contact: <redacted for public CV> +44 (0) <... redacted for public CV>



SOFTWARE EXPERIENCE

Foundation Scientific Software Engineer [October 2017 +]

Met Office, Modelling Infrastructure Support Systems team

- **Developing & maintaining the open-source infrastructure systems** *Rose & Cyc* (see *metomi/* & *cyclc/* organisations) used to configure & run scientific software for both operational forecasting & research.
- **Notable development:** wrote a software-checking utility for Cyc; migrated the *Rose Bush* service into Cyc; added logic for host selection to Cyc; converted the Cyc documentation from *LaTeX* to *Sphinx*; re-wrote a Cyc syntax lexer; & ported Rose logic from Python 2 to Python 3 & a utility's web framework from *CherryPy* to *Tornado*.
- Co-delivered training, & the *User Update 2019* seminar to ~100 people, & engaged in the *Cyclc Development Workshop* in Melbourne.

Independent Development Contributions [2016+]

Open-Source via GitHub plus Personal Projects (see my *Github* account)

- Notably completed *Hacktoberfest 2018* by contributing to three new projects, & improved the documentation for web framework *Tornado*.

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*)

LANGUAGE ETC. SKILLS

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

Languages:

Python : ● ◐ | ◐ ● | ● ●

C++ : | ● |

Unix shell (Bash ★ etc.) : ● ◐ | ◐ ◐ | ● ●

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

Version control: git ★ GitHub SVN

Environments: Linux ★ Windows

SOFTWARE SKILLS

planning development code review
design patterns documentation writing
testing (unit, regression & integration)
version control user support & training
(distributed) collaboration automation
deployment open-source contribution
retrospection continuous learning

PUBLICATIONS

1. H. Oliver et al., 'Workflow Automation for Cycling Systems: The Cyc Workflow Engine' in Computing in Science & Engineering. DOI: 10.1109/MCSE.2019.2906593 [Preprint, due for publication June 2019]

INTERESTS

Technical Software Creative Software
Mathematics Chess Art Guitar

REFERENCES

Available on request.