

Philip Usher

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Professional Profile

A versatile, **software developer/data scientist** with a PhD and 7 years experience solving varied, challenging problems in a number of environments. Confident in a range of programming languages including Python, C++, Matlab, Fortran, and with development utilities including Visual Studio, Git, SVN, Bash, Bat, NSIS and GNU Make.

Previous work involved data analysis, processing, and modelling of datasets, which included development and support for a desktop based scientific analysis product. Introduced a Doxygen based documentation system to improve the existing software product. Added extra software features based on academic papers, and automated the installer system (using NSIS). Also responsible for establishing and maintaining collaborations with both industrial and academic partners. Enjoys working in an agile team and is a keen advocate for Test Driven Development.

Looking for a new challenge as a graduate software developer or data scientist to further develop my numerate, analytical and software skills as well as utilising the aptitude to learn quickly, work in a team or independently, and solve complex problems. My abilities and attitude would be a significant benefit to your team.

Core Skills

Technologies

- Proficient in Python and C++ languages. Particularly the “scipy stack” and MFC programming for a windows desktop app.
- Version control: Git, Subversion.
- Web: Html, CSS, Jekyll.
- Documentation: Doxygen, Sphinx.
- Development Environments: Linux (GNU Make, g++, bash), Windows (Visual Studio, PowerShell, bat scripts, NSIS).

Analytical

- Statistics, Monte-Carlo simulation, bootstrapping, jack knife.
- Data management, modelling, fitting, inverse theory (Bayesian and discrete) and visualisation.
- Time series/signal analysis.
- Problem solving for example setting up a suitable documentation system for use with technical writers.

Communication

- Oral communication from PowerPoint presentations, phonecalls, skype meetings.
- Teaching geophysics and how to use the software with a number of international clients and university students.
- Communicating within a small team at Itasca, and with other researchers during PhD studies.

- Writing technical reports including for clients at Itasca and my Thesis during PhD studies.
- Working in a team at Itasca including different staff (admin, manager, software developers and geophysists).

Software Development Experience

2016- 2019 Software Developer

Itasca Consulting Ltd

Itasca makes and sells a Windows desktop application for scientific data collection and analysis. I worked on developing this software, support, consulting and training.

Key Responsibilities

- Bug fixes in 3D visualiser and “Moment Tensor Decomposition”.
- Python scripting for prototyping new features.
- Updated the documentation and user manuals using Doxygen.
- Establishing and maintaining client relations.
- Running international training courses.
- Maintaining the website.

2014, Geophysics Intern

BP-Norway

I worked on a project to replicate a high-performance large data IO bound algorithm.

Key Responsibilities

- Used in-house tools and bash scripting on a Linux system to replicate the algorithm.

Education

2011 - 2016 PhD (Geophysics)

University of Bristol

I used Python to implement academic algorithms, and plot statistical representations of the data. I explained my work in academic papers, posters and oral presentations to a variety of technical and non-technical audiences. Funded by the “Bristol University Microseismics Project” consortium.

2007-2016 MGeophys & BSc (Geophysics), 1st Class University of Leeds

For my thesis, I used a finite difference algorithm and Matlab to model seismic waves. The course included modules on inverse theory, signal processing, statistics, advanced maths, and computing.

Personal Qualities

I have enjoyed experiencing other cultures through travel, including a year abroad during my degree at the Colorado School of Mines, several conferences in the USA and Europe, and leading a training course in Russia.

I relish being outdoors. I completed the Gold Duke of Edinburgh Award in 2010 and as a member of Scouts have undertaken several camps both in the UK and Thailand. I was also appointed the Field Secretary for the Leeds Earth Sciences student society (ROCSOC). I have also completed the Yorkshire three peaks challenge and enjoy bike riding.

I have held a full, clean UK driving licence since May 2007 and am a British Passport Holder.

I enjoy reading, badminton and playing the real-time strategy game StarCraft 2 but mostly I spend my time with my wife and son.