

# Michael Sheldon

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## *Education*

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- **Ph.D., Developmental Robotics**  
2008 - 2012  
Aberystwyth University.
- **BEng, Software Engineering**  
2004 - 2008  
Aberystwyth University.  
First class.

## *Skills Summary*

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- Technical Skills
  - HTML & CSS - I've worked on front-end development for a number of web based projects, including InYourFootsteps.com, GNU FM, Libre.fm and a number of personal sites.
  - Javascript - As part of my work on GNU FM I developed a JQuery based HTML5 audio player, capable of streaming songs, reporting listening statistics and allowing users to tag songs as they hear them.
  - PHP - I implemented a range of customisations and helped to optimize the Horde and Kolab groupware systems for use by a number of departments within the German government. I'm also a core developer on the GNU FM music community system, which powers Libre.fm and is written using PHP and the Smarty template engine.
  - Perl - In addition to working on the PHP based components of the Horde and Kolab groupware suites, I was also involved in the customisation of the Perl core of Kolab.
  - SQL - As part of various web development projects I've had to design and implement databases using SQL, working with both MySQL and PostgreSQL, and in the case of GNU FM dealing with large data sets.
  - C - I wrote a collection of drivers for the Player robotics framework to handle image processing tasks and to control the Adept robot arm platform and I've also written a number of elements for GStreamer in C (described below).
  - C++ - I developed an omnidirectional camera system for the Gazebo 3D robotics simulator. In addition to this a number of the projects mentioned in the QT section were also developed in C++ (some were also developed in Python).
  - Vala - As part of my research work I developed an open source, glib based framework for the investigation of artificial intelligence called PSchema written in Vala, which has been made use of in two large European research projects.
  - Python and PyGTK - In the past I was a core contributor to the Jokosher audio editor, working on the recording/playback system and the GTK based user interface; I also created the initial Python bindings for the libchamplain map rendering project as well as creating Python bindings for PSchema.

- Qt and QML - I'm the lead developer on CuteSpotify, a Spotify client for Ubuntu Touch and Eyrie, which performs over-the-air music identification on Maemo, MeeGo and Ubuntu Touch. I've also developed a number of other Qt applications for the MeeGo platform including a client for the StatusNet/GNU Social microblogging platform; Rockwatch, an application for interacting with a Pebble smart watch and Erudite, which makes it possible to use the Amazon Cloud Reader to access Kindle books on mobile platforms not otherwise officially supported by Amazon. I also developed TizMee, a Cordova based compatibility layer allowing Tizen applications to run on MeeGo (and potentially other Qt based mobile platforms).
- GStreamer - I developed a number of elements for computer vision tasks within the GStreamer multimedia framework, based around OpenCV, and created an element for rendering MusicXML documents in to MIDI (which can then be synthesised by GStreamer's existing MIDI elements).
- Personal Skills
  - Team working - I've worked in a number of medium sized free/open source software projects, and have been directly involved in the organisation of the GNU FM development team. I've also worked on two large European research projects, ROSSI and IM-CLeVeR, both of which involved international travel for meetings.
  - Analytical skills - My ability to analyse problems and arrive at solutions has developed as a result of both software development experience and scientific training.
  - Presentational skills - I've given short talks about my research at various academic conferences. I've also spoken about the GNU FM project at the FOSDEM free/open source software conference.
  - Mentoring experience - I've mentored students as part of the Google Summer of Code program, working on both the Jokosher audio editor and the GNU FM music sharing platform, and worked as a personal tutor for undergraduate students at Aberystwyth University.
  - German - I have a good, but not quite fluent understanding of German and spent a year living in Germany when working for Credativ GmbH.

## *Career Overview*

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- Freelance programming  
2012 to 2013  
Since finishing my Ph.D. I've been working on a range of different projects including:
  - A research project with the Department of Psychology at Sheffield University, integrating the open source framework I developed as part of my Ph.D. with their neural models of the basal ganglia.
  - Mathematics Playground - A suite of interactive HTML5/JavaScript examples designed to help students gain a more intuitive understanding of a range of mathematical concepts.
  - InYourFootsteps.com - A website which provides dynamic and detailed information about harbours and routes around the coast of Ireland in an effort to keep sailors safe, utilising current marine weather conditions to provide warnings and advice.
  - ZorinOS - I was hired to fix a number of bugs in the GnoMenu component used by the Zorin GNU/Linux distribution.
  - Mobile apps - I've released two commercial mobile apps for the MeeGo platform, Erudite which makes it possible to use the Amazon Cloud Reader on MeeGo phones and Rockwatch which allows MeeGo devices to communicate with Pebble smart watches.
- Research assistant at Aberystwyth University  
2012  
During the final six months of my Ph.D. work I was also employed as a research assistant on the IM-CLeVeR project, a pan-European robotics project focusing on the open source iCub robot platform.

- Part-time demonstrator and tutor at Aberystwyth University  
2008 to 2012  
I ran a number of practical lab sessions for undergraduate students, gave a few lectures and acted as a personal tutor for roughly 12 students each year, helping students to learn Java, Haskell and systems administration.
- Developer/Consultant at Credativ GmbH  
2006 to 2007  
I worked on customising the open source Horde and Kolab groupware systems and helped in developing mail server monitoring tools as part of the Open Security Filter project.
- Developer for the SphinxOS GNU/Linux distribution  
2005  
I created utilities for making the user experience more intuitive.
- Freelance web development  
2003 to 2004  
I took on a number of small web development projects prior to starting University.

## *Interests*

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- Music - I've taught myself to play various instruments, recently focusing on the acoustic guitar and the harmonica.
- Free software - I'm very interested in the political and philosophical motivations behind the free software movement and use free software almost exclusively on my own computers.
- Drawing - I enjoy both sketching on paper and working on digital images.
- Cycling - After working for a year in Germany I cycled back to England via Belgium and France whilst camping along the way.
- Boating - I own a narrowboat which I use to explore the inland waterways of the UK.

## *References*

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- Prof. Mark Lee  
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