

Tutorial 2 - Pointers to More Effective Software and Data in Audio Research

Mark Plumbley, Director of Centre for Digital Music, Queen Mary University of London, UK.

Abstract

Sustainable and reusable software and data are becoming increasingly important in today's research environment. Methods for processing audio have become so complex they cannot fully be described in the printed paper. Researchers are becoming increasingly aware of the benefits of open access publication and reusable software and data in helping others to build on their work. However, many researchers find this difficult to achieve in practice. In this workshop we will explore ways to maximise the accessibility and impact of research through publication of research software, availability of research data, and open access paper publication. Topics will include: software version control; unit testing; writing maintainable code; code reviews; choice of language and platform; software licensing; data repositories and data management; levels of open access publication, negotiating publication agreements, and associating papers with software and data publications. The workshop will be of interest to researchers who wish to make immediate improvements to the effectiveness, sustainability and impact of their work, as well as to research group leaders with an interest in policy and management.

Bio

Mark Plumbley is Director of the [Centre for Digital Music \(C4DM\)](#) at Queen Mary University of London, and leads the [EPSRC](#) - funded [soundsoftware.ac.uk](#) initiative. His work in audio signal analysis includes beat tracking, music transcription, source separation and object coding, using techniques such as neural networks, independent component analysis, sparse representations and Bayesian modelling. Prof. Plumbley is a member of the IEEE Machine Learning in Signal Processing Technical Committee, and leads the UK Digital Music Research Network.

Mark will be leading this workshop accompanied by his colleagues:

- Chris Cannam is a software developer with 15 years commercial and extensive open-source development experience. While at the [C4DM](#) he has worked on the widely-used Sonic Visualiser cross-platform audio analysis and visualisation application; Sonic Annotator, a tool for batch extraction of meaningful features from audio files; the Vamp plugin API for audio feature extraction, and many plug-ins using this API; and tools and ontologies for music description using RDF within the Semantic Web.
- Luis Figueira is a software developer with more than 5 years of experience with C/C++, Scheme, Web technologies and databases. He has an MSc in Electrotechnical and Computers Engineering from Instituto Superior Técnico in Lisbon, where he specialized in digital signal processing with a focus on speech synthesis. Luis has recently worked in a speech technology spin-off and an open-source web development company.
- Steve Welburn returned to education in 2005 for an MSc in Intelligent Systems at University College London, after 18 years in commercial IT. Following his MSc, he studied for a Ph.D. at the Centre for Digital Music. Since December 2011 he has been working as a research assistant on research data management projects at the C4DM.