CV Benjamin Harold Williams

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RESEARCH

2004 - Present — **University of Edinburgh, School of Informatics, Institute of Adaptive and Neural Computation**
PhD project examining the possible extraction of Motor Primitives from handwriting data, using Factorial Hidden Markov Models (fHMM) coupled to higher level timing models. Such a generative model can then form a basis for more compact representations of handwriting, in the form of spike timings.
Supervised by Dr Amos Storkey and Dr Marc Toussaint

Summer 2002 — **Imperial College of Science, Technology and Medicine, Department of Electrical and Electronic Engineering**
Summer research placement with Prof. Igor Aleksander working with Neural Representation Modeller (NRM)

PUBLICATIONS

Williams, B., M. Toussaint and A.J. Storkey (2006) **Extracting Motion Primitives from Natural Handwriting Data**. *In Proceedings of the International Conference on Artificial Neural Networks (ICANN)* Pdf (322K)

Williams, B., M. Toussaint and A.J. Storkey (2007) **A Primitive Based Generative Model to Infer Timing Information in Unpartitioned Handwriting Data**. *In Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)* Pdf (231K)

Williams, B., M. Toussaint and A.J. Storkey (2007) **Modelling motion primitives and their timing in biologically executed movements**. *In Proceedings for Neural Information Processing Systems (NIPS)* Pdf (734K)

HIGHER EDUCATION

2003 – 2004 — **University of Edinburgh, School of Informatics**
MSc "Neuroinformatics" A cross-disciplinary course combining Neuroscience and Informatics, as part of the nationwide Doctoral Training Centre (DTC) programme.

2002 – 2003 — **ENSERG, INP Grenoble (Phelma)**
ERASMUS exchange programme, final year (BAC+5) in electronics.
Qualification as part of MEng degree

1999 – 2002	**Imperial College of Science, Technology and Medicine, Department of Electrical and Electronic Engineering** MEng "Electrical and Electronic Engineering with a year in France" Graduated with first class honours 2003

WORK EXPERIENCE

2000 – 2002	Double Bass/Guitar Teacher in Imperial College
2001 – 2002	Part-Time Office Assistant for Sinfonia21, a professional orchestra, resident at Imperial College
1998 – 1999	Full-Time Salaried Position as an Electrical Engineer at Mecelec, Gloucester, UK Part of The Year in Industry scheme, including Management Training Research, prototype construction, testing, documentation and demonstration.
1996 – Present	Freelance Double Bass Player

OTHER INTERESTS / SKILLS

Programming	Proficient in **C/C++, Matlab** PhD project involved development of Matlab/C++/MEX model Matlab taught and used throughout university career C++ course taken in ENSERG, INPG PASCAL course taken in Imperial College Experience of Pascal, ARM Assembly Language and HTML
IT	Proficient at computer assembly, hardware troubleshooting, computer and network management Regular user of Linux/UNIX, Mac OS, MS Windows
Publishing	**LaTeX**, OpenOffice, MS Word, Graphic design programs, Format conversion tools
Music	**Double Bass, Cello, Guitar** Currently in several orchestras in Edinburgh Performed a Double Bass concerto in 2007 with Edinburgh University Music Society (EUMS) Sinfonia.
Elected Positions	Publicity Officer on Imperial College Symphony Orchestra committee Publicity Officer on Edinburgh University String Orchestra Ordinary Member on Edinburgh University Music Society
Sports	**Badminton, Squash, Jogging**
Languages	**French** - Fluent Top level language course at Imperial Final year of undergraduate degree spent in France, with all teaching and exams in French **German** - Basic Voluntary evening language courses attended at Imperial