

CONTACT
INFORMATION

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EDUCATION

PhD Computer Science, University of York**[2005 - 2009]**

- Thesis title: Generative Models for Graphs
- Supervisor: Dr. Richard C. Wilson
- Part of the Computer Vision & Pattern Recognition Group.
- Submitted Thesis: June 2009, Passed Viva with Minor Corrections: October 2009
- Awarded a 3 year EPSRC studentship to fund this research.
- Detail: The aim of this research was to develop methods of constructing generative models over sets of relational graphs. In other words, given a set of graphs how could new graphs be generated that were drawn from the distribution of the original set? My main contributions were a) a generative model based on a vectorization of graph structure, b) a generative model that made use of a parts-based approach and c) applying these approaches to provide a generative model for chemical structure. This model was combined with existing knowledge about the structure of drugs for a specific pharmacological target to generate a set of new potential drug candidates. More can be found out about this research at my website [www.david-white.net] or the publications listed below.

MEng Computer Systems & Software Engineering, University of York **[2001 - 2005]**

- Awarded with First-Class Honours.
- 3rd Year Project: Developed the use of the safety-critical synchronous language *Lustre*, programming tool *SCADE* and implementation platform *Lego Mindstorms* as a reactive systems teaching method.
- 4th Year Project: Investigated methods for speeding up the machine-learning technique *reinforcement learning* through parallization.
- 4th Year Group Project: The project was set by Thales Underwater Systems and involved the group interacting with the company as through they were our clients. The project involved the design and partial implementation of an intra-ship communication system for aircraft carriers.
- The degree covered the following aspects of computer science:

Software Specification & Architectures	Embedded Systems
Constraint Programming	Real-time Systems
Non-standard Computation	Cryptology
Adaptive & Learning Agents	Operating Systems
Compiler Construction & Optimization	Networks & Distributed Systems
Formal Program Development	Hardware Architectures
Relational Databases	

Banchory Academy, Aberdeenshire**[1995 - 2001]**

- CSYS (2001): Maths I (A), Maths V (Mechanics) (A), Physics (A)

PUBLICATIONS

D. White and R. C. Wilson. Parts-based Generative Models for Graphs. In *19th International Conference on Pattern Recognition (ICPR'08)*, Tampa, USA, Pages 1–4, December 2008.

D. White and R. C. Wilson. Spectral Generative Models for Graphs. In *Proceedings of the 14th International Conference on Image Analysis and Processing (ICIAP'07)*, Modena, Italy, Pages 35-42, September 2007.

D. White and R. C. Wilson. Mixing Spectral Representations of Graphs. In *Proceedings of the 18th International Conference on Pattern Recognition (ICPR'06)*, Hong Kong, Pages 140–144, Volume 04, August 2006.

D. White and G. Lüttgen. Embedded systems programming: Accessing databases from Esterel. In *EURASIP Journal on Embedded Systems*, Volume 2008, Article ID 961036.

PROFESSIONAL
EXPERIENCE

Staff Scientist, Universität Bamberg, DE

October 2009 - Present

I am currently employed by the Universität Bamberg and I work in the Lehrstuhl für Softwaretechnik und Programmiersprachen in a research/teaching post. I prepare and teach the practical sessions for the compiler construction course which involves the students building a complete compiler using Haskell. My research will focus on compiler construction for parallel systems.

Summer Internship, University of York, UK

Summer 2004

Over the summer holidays in 2004, I was awarded a Nuffield bursary to perform research in the area of my 3rd year degree project: synchronous reactive systems and Lego Mindstorms robotics. The project centered on Esterel, an imperative language for specifying synchronous reactive systems that can automatically generate code implementing a specification. By extending Esterel with an API to allow database access from within Esterel, two traditionally separate parts of the design process can be brought together, allowing data retrieved from the database to be processed directly by the reactive kernel Esterel generates.

Website Programmer, MD Consultancy, UK

Summer 2003

As part of a new start-up company from MD Consultancy, I designed and implemented a web based recruiting service. The system allowed applicants to apply for jobs or submit their CV speculatively, adding to the database of applicants. Recruiters could then use the database to match suitable applicants to job vacancies as well as trace their progress through the application. The dynamic content was generated using PHP and the database was implemented using MySQL.

AWARDS

- EPSRC Postgraduate Research Scholarship, 2005-2008
- Awarded joint first for the “Best Undergraduate Project in the Year” prize, 2005
- Nuffield Foundation Undergraduate Research Bursary, 2004

TECHNICAL
COMMUNICATION

I have good technical communication skills that I have developed from; team projects I have participated in during my degree, writing technical papers, discussion of research with colleagues and presentations given both locally and at international conferences. To present the results of my PhD I have co-authored papers and given presentations at ICIAP’07 and ICPR’08. I have presented the results of my summer research at SYNCHRON’04 and this work was recently published in EURASIP Journal on Embedded Systems.

COMPUTER
SKILLS

- Operating Systems: Microsoft Windows; some experience using Linux.
- Programming: Matlab, C/C++, Perl, PHP, Esterel, Lustre. Some experience with: Ada95, Java, Eclipse, Prolog.
- Publishing: Microsoft Word, Microsoft Powerpoint, \LaTeX 2 ϵ
- Experience in repairing, building, upgrading and maintaining PCs for people in the local community.
- Experience in designing and implementing dynamic websites driven by PHP and MySQL.

OTHER SKILLS &
INTERESTS

Driving: I have held a clean UK driving licence for 8 years.

Music: I enjoy most music and as a result I learned to play the saxophone and piano (attaining grade 5 distinction and grade 4 respectively). While I was at Banchory Academy I played the saxophone in a concert band which gave regular performances. I have also passed grade 5 theory with distinction.

Sport: During the summer I enjoy mountain biking and in the winter I like snowboarding.

REFEREES

Prof. Dr. Gerald Lüttgen
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