

## Gwenn Englebienne

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2.62 Kilburn Building  
School of Computer Science  
Oxford Road  
Manchester M13 9PL  
United Kingdom

Phone: +44 161 275 4763  
Fax: +32 9 384 7250  
gwenn.englebienne@cs.man.ac.uk  
<http://www.cs.man.ac.uk/~englebig>

### Career objectives

I have a versatile personality and broad interests. I have moved from industry to academia, in search for a career which would allow me to grow while giving me a chance to contribute to knowledge in a way that is beneficial to the human condition. I am now looking for a continuation along this path.

### Education

PhD in Computer Science, University of Manchester. Expected graduation: 2008

Masters in Advanced Computer Science, University of Manchester. *With Distinction.* 2004  
My thesis was *Efficient Learning of Objects in Images*, for which I implemented, extended and investigated the properties of an algorithm for the segmentation of objects in video sequences.

Industrial Engineer [M.Sc.] in Electronics ICT, Hogeschool Gent. *Cum laude.* 2000  
Thesis: *Streaming video manipulation on research platforms and wearable computers*, nominated for *Barco VIK* award, an important yearly award for the best Belgian engineering theses.

Erasmus exchange, Umeå Universitet, Spring 2000

### Research interests

I am fascinated by the investigation of the concept of learning, how machines can be made to gather information, how this can be quantified, and how this relates to the way humans perceive and learn.

I'm particularly interested in Machine Learning, Artificial Intelligence, Bayesian Analysis, Computer Vision, Speech Recognition, Information Theory and Algorithms.

### Research Experience

I have been investigating bimodal speech animation & recognition, as supervised by Magnus Rattray. This has led me to the development of novel probabilistic models based on Switching Linear Dynamical Systems, a form of Dynamic Bayesian Networks (DBN). As part of this research, [the experiment linked here](#)<sup>1</sup> evaluated how humans experience artificial talking heads.

I gave a number of talks on my research at research group seminars and internal PhD symposia. I also chaired an internal PhD symposium at the University of Manchester.

### Publication and Reports

*A Probabilistic Model for Generating Realistic Lip Movements from Speech.* 2007  
With Magnus Rattray and Tim Cootes, NIPS 2007. The paper was accepted for a full oral presentation, and a journal version is forthcoming.

*Efficient Learning of Objects in Images*, M.Sc. thesis. 2004

### Scholarships

University of Manchester Departmental Scholarship 2004 – Present  
European Community Erasmus funding Spring 2000

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<sup>1</sup><http://rpc182.cs.man.ac.uk/e2>

## Work experience

Embedded Software developer, Scientific Atlanta 2000 – Sept 2003  
Scientific Atlanta, now part of Cisco, is a major producer of head-end and digital service provider equipment. During my time there, I achieved a few notable successes:

- I introduced linux into the company culture, created our own embedded linux system, implemented kernel-mode device drivers and developed in-house development tools.
- I Designed and directed the implementation of embedded control software for PrismaGbE on x86- and PowerPC-based embedded systems under linux.
- I single-handedly developed and implemented, on a number of platforms, proprietary network layer protocols allowing the detection and automatic mapping of the complete network topology.
- During this time I gave multiple seminars on the development principles, tools and methodologies used for PrismaGbE. I also went to India to train the group of engineers that would take over the maintenance of the code.

## Teaching Experience

During all three years of my PhD, not only was I able to pursue my PhD research, but I also took the initiative to teach students. I was a full time teaching assistant for this whole period, which is very uncommon in the UK. The courses I was responsible for were:

Operating Systems, ..... Fall 2004  
Subsymbolic Processing and Neural Networks, ..... Fall 2004, Fall 2005, Fall 2006  
Artificial Intelligence Fundamentals, ..... Spring 2005, Spring 2006, Spring 2007  
Foundations of Computer Science, ..... Fall 2005, Spring 2006, Fall 2006  
Object Oriented Programming with Java, ..... Fall 2004, Spring 2005, Fall 2005, Spring 2006

## Open Source Software

I have made contributions to multiple open source software projects. I also wrote *Yasmin*, an open source, source-level emulator of the 80c51 microcontroller.

## Skills

I have good communication skills, as well as management and organisational skills. This is evidenced by my role with *Saint Georges*, the 2<sup>nd</sup> largest scouting group in Belgium. During my three years with Scientific Atlanta, I was elected the head of, and responsible for the group. The group grew fast (the number of new subscriptions doubled) during this time, even though countrywide the number of scouts was dwindling.

My native tongues are French and Dutch. I am fluent in English and have notions of Mandarin Chinese, which I have been, and am still, actively improving at the moment.

I am fluent in a variety of programming and scripting languages, including C, C++, Matlab, Java, Lisp, Prolog, Assembler (x86, PowerPC, 80c51), Python, Perl, shell scripting, sed and awk. I am also familiar with various operating systems, including Linux, BSD, Solaris, DOS, Windows (3.11 – XP) and various embedded systems.

I can learn fast, understand things deeply and explain them clearly. I am an independent thinker. I welcome new challenges in life and career.

I am curious, tenacious, idealistic and optimistic.

## Interests

I enjoy hiking, squash and badminton, programming, playing guitar, long philosophical discussions, playing with the soldering iron and oscilloscope, woodcraft, and generally being constructive.