Jeremiah M. Via

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Education

2012 **BSc in Artificial Intelligence & Computer Science** (First Class Honours)
University of Birmingham, United Kingdom
ADVISORS: Nick Hawes; Jeremy Wyatt

Key topics:

- **machine learning**: q-learning, probabilistic latent semantic analysis, independent component analysis, decision tree learning, k-nearest neighbors, case-based reasoning, support vector machines
- **natural computation**: game theory, cellular automata, ant colony optimization, random walks, evolutionary algorithms, market-based control, self-organizing maps, particle swarm optimization
- **natural language processing**: morphological analysis, pos tagging, DCG parsing, active chart parsing, recursive transition networks, quasi-logical forms
- **computer vision**: edge detection, noise filtering, hough transform, eigenfaces, object recognition, feature detection
- **robotics**: control theory, markov decision processes, behavior-based control, probabilistic road maps, particle filtering
- **intelligent data analysis**: principle component analysis, self-organizing maps, model-based data clustering, latent semantic indexing, PageRank
- **neural computation**: hebbian learning, gradient descent learning, back-propagation, conjugate gradient learning, recurrent neural networks, radial basis function networks, self organizing maps, learning vector quantization, committee machines, mixture models

2009 **AS in Computer Programming** (3.83 GPA)
Grossmont College, USA

Key topics:

- programming languages: java, c++, x86 assembly
- data structures: binary trees, heap-tree, graphs, sets, b-trees, tries
- unix
- software engineering

Appointments Held

1. RESEARCH

2011 **Universität Bielefeld**, Research Institute for Cognition and Robotics
Summer Research Intern

Worked with a PhD student to incorporate a data-driven fault-detection algorithm into the CoSy Architecture Schema Toolkit (CAST).

University of Birmingham, Intelligent Robotics Lab
Summer Research Intern

Performed experiments on robots running CAST in order to determine the efficacy of a data-driven fault-detection algorithm on event-based systems. Results were then used to improve the algorithm.

2. Teaching

2012 **University of Birmingham**, Robot Programming
Teaching Assistant

Grants & Awards

2011 Ede & Ravenscroft Travel Bursary
Student Development Scholarship
Nuffield Foundation Science Bursary
School of Computer Science Excellency Scholarship
2010 British Computing Society Tammal Hussein Memorial Prize
School of Computer Science Excellency Scholarship
2009 Best First Year Computer Science Student
School of Computer Science Excellency Scholarship
President's List (4.0 GPA)
2008 Vice-President's List (3.5+ GPA)
Vice-President's List (3.5+ GPA)
2007 Vice-President's List (3.5+ GPA)

Activities

2011–2012 **Vice-Chancellor Seminar Series**

Took part in a series of seminar discussions with members from the other schools of the university. The three top students from each of the five schools were selected to participate and each school hosted one discussion topic. Host schools and topics:

Arts & Law	Is high culture necessarily elitist?
Social Sciences	Can we still afford the welfare state?
Engineering and Physical Sciences	Should science spend less time on discovery and more on applying known science for economic benefit?
Life and Environmental Sciences	Is the opposition to GMOs based on simple scientific ignorance?
Medical and Dental Sciences	Should life be extended at all costs?

2010–2012 **Birmingham Autonomous Robot Club**

Founded the robot club in my second year as a way to get interested students and academics working together to make intelligent robots. It was immensely fun and we were able to show off our robots at school events. I have programming experience with the B21, Pioneer 3DX, Pioneer 1, Nao, and iRobot Create.

IT & Programming Skills

Programming languages (Java, Common Lisp, Prolog, C/C++).
Scripting languages (Python, shell).
Markup languages (HTML, CSS, XML, YAML, JSON).
Query languages (SQL).
Data analysis (Matlab).
Revision control (Git, Subversion).
Digital typesetting (TEX, LATEX, XELATEX).

Languages

English (native speaker)
Spanish (conversational fluency)

Talks

Data-Driven Anomaly Detection. *Intelligent Robotics Lab, University of Birmingham.* November, 2011.