David Vandyke

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PhD Candidate
Human-Centred Computing Lab
Faculty of Education, Science, Technology & Mathematics
University of Canberra, Australia

[Please note: This is a general version of my resume, non-specific to any one job, written for the purpose of posting on several online recruitment sites.]

Personal Details

I am an Australian citizen currently living in Canberra. However my fiancée is from East Anglia and we have chosen to live in the UK and will be moving to England together in July 2014 shortly after the submission of my PhD thesis. My research interests and the areas that I am looking to work in broadly include statistical modelling, prediction and machine learning. I am excited about biometrics, particularly speech, quantitative analysis for finance or betting (exchanges in particular) and many such scientific or quantitative problems requiring concepts and tools that overlap with my mentioned research interests. I am interested in either industry or academic positions. A brief description of my doctoral thesis work is found below. My current plan is to come to the UK on a Tier 5 Youth Mobility visa that will allow me to work in the UK for up to 2 years. I am of course amenable to moving onto which ever visa is most appropriate for the given employment terms. I would be glad and excited to hear from you regarding any potential positions.
Please contact me via email. Regards, David.

Education

University of Canberra **Canberra**
Information Sciences & Engineering PhD *2010-2014*
Currently I am an Information Sciences & Engineering PhD candidate within the Human-Centred Computing Lab at the University of Canberra, Australia. I will be submitting my thesis in June, 2014.

Monash University **Melbourne**
Bachelor of Science Advanced, 1st Class Honours *2004-2008*
Double mathematics major & physics minor.
Honours project: Stochastic models for finance. [Transcript attached on final page]

Cowra High School **Cowra**
University Admission Index (UAI): 99.75 *1998-2003*
Dux: Years 10,11 & 12
Higher School Certificate (HSC) Units:
Ancient History (93), Chemistry (94), English [2unit Advanced] (90),
Physics (92), Extension I Mathematics (98), Extension II Mathematics (95)

Doctoral thesis

Title: Glottal Waveforms for Speaker Inference & A Regression Score Post-Processing Method Applicable to Classification Problems

Supervisors: Prof. Michael Wagner & Assoc. Prof. Roland Goecke

Description: My thesis deals with the estimation and modelling of the air flow through a speakers larynx during speech. Estimates are made from the sampled speech signal alone and used to infer speaker characteristics, particularly identity. A novel method is also proposed in order to improve the recognition performance of generic classification systems. This is achieved by analysing relationships present within the initial classification scores. Broadly, it is applicable to any classification problem where the task is to determine the type of some unknown input.

Awards

ACII Student Grant — **Geneva, Switzerland**
Affective Computing and Intelligent Interaction (ACII) — *2013*

Best Conference Paper — **Kuching, Malaysia**
International Conference on Information Technology in Asia (CITA) — *2013*

Interspeech Student Grant — **Lyon, France**
International Speech Communication Association (ISCA) — *2013*

Best Student Paper — **Sydney**
Australasian International Conference on Speech Science and Technology — *2012*

ASSTA Student Grant — **Sydney**
Australasian Speech, Science & Technology Association (ASSTA) — *2012*

W.J. Weeden Postgraduate Research Scholarship — **Canberra**
University of Canberra — *2011*

Australian Postgraduate Award - Doctoral Scholarship — **Canberra**
Australian Government — *2013*

Best Statistics Honours Student — **Melbourne**
Monash University — *2008*

School of Mathematical Sciences Honours Scholarship — **Melbourne**
Monash University — *2007*

Deans List Fellowship Award — **Melbourne**
Monash University — *2007*

Chris Ash Prize: Mathematics (Logic, Graphs) — **Melbourne**
Monash University — *2005*

Commonwealth Education Costs Scholarship — **Melbourne**
Australian Government — *2005*

Chris Ash Prize: Mathematics (Linear Algebra) — **Melbourne**
Monash University — *2004*

Academic Excellence Scholarship - duration of degree — **Melbourne**
Monash University — *2004*

New South Wales Premiers Award for All Round Excellence — **Sydney**
NSW Government — *2003*

Achieving a mark > 90 in all units in High School Certificate

Selected to attend the National Youth Science Forum (NYSF) **Canberra**
Australian National University / University of Canberra / CSIRO *2002*

Selected to attend the Siemens Science Experience **Sydney**
University of Sydney *2001*

Experience

Vocational

University of Canberra **Canberra**
AusTalk research assistant *Dec 2013 - Feb 2014*
Responsible for the scheduling, recording and reimbursement of participants in collecting the AusTalk database of Australian speech.

National Centre for Biometric Studies **Canberra**
Forensic Voice Comparison assistant scientist *Oct 2013 - Jan 2014*
Pre-processing of recorded evidence, model estimation and comparison as required to produce an expert witness report for NSW police.

University of Canberra **Canberra**
Tutor, Information Sciences & Engineering *Feb 2011*
Tutoring of 1^{st} 2^{nd} & 3^{rd} year engineering units including biometrics.

Crust Pizza **Canberra**
Pizza maker, cashier, pizza cutting, cleaner, stock inventory *Apr 2010-Feb 2011*

All Terrain Fencing **Cowra**
Fencing Contracting *Jun 2009-Nov 2009*

Monash University **Melbourne**
Tutor, School of Mathematics *Feb 2008-Oct 2008*
Tutoring of 1^{st} 2^{nd} & 3^{rd} year mathematics and statistics units.

Crust Pizza **Melbourne**
Pizza maker *Feb 2006-Jan 2007*

Optus Business Direct **Melbourne**
Gen 3 Communications P/L *Feb 2006-Jan 2007*
Customer service manager, database entry and IT assistant.

Pepper Tree Farm **Cowra**
Mowing, repairs, general maintenance *Dec 2001-Dec 2009*

McDonalds **Cowra**
Kitchen hand *Aug 2001-Sep 2002*

Miscellaneous

International Conference on Multimodal Interaction **Sydney**
Invited Reviewer- 'Emotion Recognition in the Wild' *Aug 2013*
Reviewer of selected submitted papers to the Grand Challenge, Sydney.

Pepper Tree Farm **Cowra**
Website Designer *Feb 2009*
Taught myself HTML, CSS and flash to build `http://www.peppertreefarm.org` for the Standardbred horse stud my family created and run.

Academic Visits & Internships

Georgia Institute of Technology (Georgia Tech) **Atlanta**
Visiting Researcher *July 2013*
I visited Assoc. Prof. Elliot Moore II for three weeks

National Australia Bank/ Monash University **Melbourne**
Mathematics Internship *Nov 2008-Feb 2009*
Development of C++ implementations of stochastic finance models

Online Courses & Self Learning

At the end of 2013 I began teaching myself object-orientated programming, learning the syntax of C++, and fundamental data-structures and algorithms. This is an ongoing process. I have also worked through, or am currently working through, the following online courses.

Statistical Learning: [Stanford Online] Stanford University - R.Tibshirani & T.Hastie

Convex Optimisation: [Stanford Online] Stanford University - S. Boyd

Algorithms I: [Coursera] Princeton University - R. Sedgewick & K. Wayne

Algorithms II: [Coursera] Princeton University - R. Sedgewick & K. Wayne

Analysis of Algorithms: [Coursera] Princeton University - R. Sedgewick

Machine Learning: [Coursera] Stanford University - A. Ng

Financial Markets: [Coursera] Yale University - R. Shiller

Data Analysis and Statistical Inference: [Coursera] Duke University - M. Çetinkaya-Rundel

A Beginner's Guide to Irrational Behavior: [Coursera] Duke University - D. Ariely

Probabilistic Graphical Models: [Coursera] Stanford University - D. Koller

Interests

Soccer: Played competitively since age 5. Support Tottenham Hotspur FC.

Fiction: Gothic Horror, Southwestern, Alternative History, Detective & Crime, SciFi. Authors: Cormac McCarthy, Neal Stephenson, JD Salinger.

Non-Fiction: History, Social Science, Modelling/Prediction, Finance, Biography, Science.

Travel: I have visited: Nepal, Thailand, Malaysia, England, Scotland, The Netherlands, Germany, France, Switzerland, USA. I would most like to visit Japan, India, Italy, Spain, Greece, Ireland, Brazil and Mexico.

Hobby Electronics: Taught myself to solder and then built an Arduino micro-processor controlled robot capable of detecting movement, tilt and lift and playing appropriate sounds in response. This was a present for my now fiancée.

- Scuba Diving
- Music
- Snow Boarding
- Road Cycling
- Electric & Acoustic Guitar
- Photography

Memberships

ISCA: International Speech & Communication Association

ASSTA: Australian Speech Science & Technology Association

Monash University - Undergraduate Transcript

NB: Poor quality version for Monster.com size restrictions.

MONASH University

ACADEMIC RECORD

Student Name: DAVID JAMES VANDYKE
Student ID: 19428073

Date of Issue: 29-OCT-2009

QUALIFIED ON 28 NOVEMBER 2008 FOR BACHELOR OF SCIENCE ADVANCED WITH HONOURS
GRADUATED ON 29 OCTOBER 2009 IN BACHELOR OF SCIENCE ADVANCED WITH HONOURS
FINAL COURSE MARK: 90
FINAL COURSE GRADE: H1
SPECIALISATION: MATHEMATICS
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SCHOLARSHIP: MONASH UNIVERSITY INTERNATIONAL SCHOLARSHIP FOR EXCELLENCE, MONASH UNIVERSITY SCIENCE SCHOLARSHIP
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BACHELOR OF SCIENCE ADVANCED WITH HONOURS

		Teaching Period	Credit Points	Mark	Grade
2008					
MTH4100	MATHEMATICS HONOURS PART 3 (PROJECT)	FY	24	92	HD
MTH4210	MATHEMATICS HONOURS PART 1	1	12	91	HD
MTH4220	MATHEMATICS HONOURS PART 2	2	12	86	HD
MTHHONS	FINAL GRADE MATHEMATICS HONOURS	2	-	90	HI
2007					
MTH3011	PARTIAL DIFFERENTIAL EQUATIONS	1	6	94	HD
MTH3021	COMPLEX ANALYSIS AND INTEGRAL TRANSFORMS	1	6	96	HD
MTH3251	FINANCIAL MATHEMATICS	1	6	99	HD
PHS3131	THEORETICAL PHYSICS	1	6	85	HD
ASP2062	INTRODUCTION TO ASTROPHYSICS	2	6	93	HD
MTH3000	MATHEMATICS RESEARCH PROJECT LEVEL 3	2	6	83	HD
MTH3110	DIFFERENTIAL GEOMETRY	2	6	96	HD
PHS3142	THEORETICAL PHYSICS II	2	6	80	HD
2005					
MTH2021	LINEAR ALGEBRA WITH APPLICATIONS	1	6	97	HD
MTH2051	INTRODUCTION TO COMPUTATIONAL MATHEMATICS	1	6	88	HD
MTH2140	REAL ANALYSIS	1	6	95	HD
PHS2011	PHYSICS: QUANTUM CONCEPTS AND TECHNOLOGIES	1	6	86	HD
MTH2032	DIFFERENTIAL EQUATIONS WITH MODELLING	2	6	87	HD
MTH2122	ALGEBRA AND NUMBER THEORY	2	6	90	HD
PHS2022	PHYSICS FOR COMMUNICATIONS AND MEASUREMENT	2	6	82	HD
SCI2020	SCIENTIFIC METHODOLOGIES AND RESEARCH TECHNIQUES	2	6	90	HD
2004					
CSE1301	COMPUTER PROGRAMMING	1	6	100	HD
MTH1030	TECHNIQUES FOR MODELLING	1	6	97	HD
PHS1011	PHYSICS	1	6	98	HD
STA1010	STATISTICAL METHODS FOR SCIENCE	1	6	90	HD
ATM1010	THE DYNAMIC ATMOSPHERE	2	6	90	HD
MTH1112	NUMBERS, LOGIC AND GRAPHS	2	6	96	HD
MTH2010	MULTIVARIABLE CALCULUS	2	6	100	HD
PHS1022	PHYSICS	2	6	96	HD

This is the complete academic record of the named student at this University.

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