

There are some things in this world that we may never know: I'd like to know them.

I consider the study of mind to be my life's work.

The building of artificial cognitive systems furthers this work, and promises to help make a better world.

Education

Sep 2005—Dec 2011, **PhD in Artificial Intelligence**, University of Birmingham

I attempt to traverse the ground between computer vision and physical cognition by combining *physical simulation* with *computer vision* to improve the latter. Two publications have come out of this work so far, with more expected.

Jun 2004—Jul 2005, **Postgraduate Diploma in Psychology**, University of Auckland (Part-time)

I studied neuroscience, qualitative and quantitative research methods, the study of consciousness, cognitive science and evolutionary psychology. I set up, ran and analysed the results from an EEG experiment using "dichotic pitch" to investigate brain processing of stereo sound cues. Resulted in one journal publication.

Feb 2002—Nov 2002, **BSc Honours in Computer Science**, University of Auckland (First Class, A Grade)

With a first class A honours, the highest achievement possible in this restricted-entry degree.

Feb 1998—Nov 2001, **BA/BSc Psychology & Computer Science**, University of Auckland (Conjoint)

Minoring in Maths and English, this was an accelerated degree with two majors and two minors.

Work Experience

2010-present: **Lecturing and tutoring**, Department of Computer Science, Istanbul Bilgi University

I developed new courses in optimal mobile robotics as well as computer graphics & simulation, based around problem-based learning. I also taught academic skills, and advised a handful of thesis projects.

2005-2010: **Tutoring, lecturing**, School of Computer Science, University of Birmingham

I gave lectures in computer vision & in intelligent robotics. I was responsible for demonstration & lab admin, including experimental methodology & quantitative methods. I also gave tutorials in Java and databases.

2002-2005: **Analysis, programming, and site lead**, Talgentra NZ Ltd, Auckland, N.Z.

I supported billing software for several energy network providers. Responsible for six different client companies as first-contact and site-lead, analyzing requirements, delegating work, and developing software.

1999-2002: **Laboratory Tutor**, Department of Computer Science, University of Auckland

1998-2001: **Labouring, Manufacturing, Office Work**, Student Job Search, Auckland

1997-2005: **Bookshop Sole Charge & Ordering**, Russell Bookshop, Russell, Northland, N.Z.

1997-1997: **Landscape Labourer**, Mike Price Landscape Developments, Keri Keri, N.Z.

1996-1997: **Building Labourer**, John Gebbie, Builder, Russell, Northland, N.Z.

I pursued a variety of temporary work before and during university, and had experience with a wide range of industries, work places, and work styles.

Publications

Duff, D.J., Mörwald, T., Stolkin, R., & Wyatt, J.L. (2011). **Physical simulation for monocular 3D model based tracking**. *IEEE International Conference on Robotics & Automation*, Shanghai, China. 5218-5225.

Duff, D.J., Wyatt, J.L., & Stolkin, R. (2010). **Motion estimation using physical simulation**. *IEEE International Conference on Robotics & Automation*, Anchorage, Alaska. 1511-1517.

Johnson, B.W., Hautus, M.J., Duff, D.J., & Clapp, W.C. (2007). **Sequential processing of binaural interaural timing differences for sound source segregation and spatial localization: Evidence from event-related cortical potentials**. *Psychophysiology*, 44(4), 541-551.

Duff, D.J., & Guesgen, H.W. (2002). **An evaluation of buffering algorithms in fuzzy GISs**. *GIScience*, Boulder, Colorado, 80-92.

Contact details:

Tok Apt D: 6
Hafiz Ali Sok. No: 6-8
Meccidiye Mah.
34347 Ortakoy
Beşiktaş, İstanbul
+90 554 650 0540

DamienJadeDuff@gmail.com
<http://www.cs.bham.ac.uk/~djd>

Awards

University of Birmingham: 2008-2010: CogX EU FP7 project scholarship. 2006-2008: ORSAS scholarship (UK govt.). 2005-2008: School of Computer Science departmental scholarship. 2010: euCognition travel grant (iCub summer school).

University of Auckland: 2002: *First Class Honours*; Faculty of Science Bursary. 2001: Senior Prizes, Computer Science & Psychology; Faculty of Science Summer Scholarship.

Bay of Islands College: 1996: *Dux*. 1996: Head Prefects Cup. 1996: Senior Science Contribution Cup. 1996: Excellence in Chemistry Cup. 1996: Winner, impromptu speaking cup, also prepared reading. 1995: Highschool highest academic attainment. 1994: Highschool highest academic attainment. 1993: Winner, junior prepared reading. All years: subject area national exam prizes.

New Zealand: 2002: Full car and motorcycle driving license. 1995: Distinction, Australian National Chemistry Quiz. 1993: Surf Lifesaving Certificate level 1. 1993: Winner, NZ National Mental Health Awareness Week poetry competition.

Miscellaneous

Primary technological competencies: C++, C, Java, Matlab/Octave, Macsyma, UniBasic/Pick, Lisp, Haskell, Python+SciPy, HTML/PHP, LabView, RoboJDE, Qt, OpenCV, OpenGL, office tools, SQL, Crystal Reports, CAST, Latex, Windows, Unix - I pick up new tools with little fuss.

Additional skill areas: Prose, scientific methods & experiment design, probability & statistics, critical analysis & reflexive techniques, organization & management, artificial intelligence, optimization, computer vision, machine learning, rigid body simulation, commercial programming, theory and practice of education, psychology, EEG setup and analysis, philosophy of the mind, intermediate Turkish, public speaking, a desire for constant self-betterment, and an unfailingly cheerful disposition.

Courses: University of Birmingham Residential Researcher Teamwork Course (team leader), Project Management in Research, Small Group Teaching, Lion Nathan School of Business, Effective Researcher, Presentation Skills, Managing Research Relationships.

Professional memberships: AISB (Artificial Intelligence & Simulation Behaviour), ACM (Assoc. Computing Machinery), ASSC (Association for Scientific Study of Consciousness), BMVA (British Machine Vision Association), IEEE (Institute of Electrical & Electronics Engineers).

Other roles: 2006-2009: University of Birmingham Young Greens Society President/Secretary. In this role I arranged and ran society meetings, organised many public events, and motivated others to make a difference, locally and regionally.

Interests

The Arts: Acted in *The Duchess of Malfi*, *The Tempest*, *Henry V*, and leading roles in *Ivan & the Devil (Brothers Karamazov)*, *The Tui Bird*, *The End of Time*, and *Coming to New Zealand*. An enthusiast of literature, philosophy, art and dance, and an amateur writer.

The Sciences: I do research because I love doing it, and because of an ambition to know.

The World: While it is a large and beautiful one, we only have one of these, and each part of it limitlessly valuable.

References

Dr Jeremy Wyatt, Senior Lecturer (and my PhD Supervisor)
School of Computer Science, University of Birmingham, B15 2TT, United Kingdom
Phone: +44 121 414 4788 Email: J.L.Wyatt@cs.bham.ac.uk

Dr Blake Johnson, Research Senior Lecturer (and my EEG project supervisor)
Institute of Human Cognition and Brain Science, Macquarie University, Sydney, Australia
Phone: +61 2 9850 6879 Email: BJohnson@maccs.mq.edu.au

More references available on request

Research interests

Physical cognition

Cognitive robotics

Computer vision

Autonomous systems

Abstraction, reuse and adaptation

Metaphor and analogy

Machine learning

Learning to learn

The links between simulation, control, and estimation

Automatic programming with real-world tasks

Embodied cognition

Ecological & cultural definitions of space, object and mind

The nature of knowledge

Consciousness

Representation & models

Assistive, environmental and humanist applications of technology

“The proper study of mankind is Man”
Alexander Pope

“The proper study of mankind is Everything”
C.S. Lewis

Contact details:

Tok Apt D: 6
Hafız Ali Sok. No: 6-8
Mecidiye Mah.
34347 Ortakoy
Beşiktaş, İstanbul
+90 554 650 0540

DamienJadeDuff@gmail.com
<http://www.cs.bham.ac.uk/~djd>