

Tom Botterill

CONTACT INFORMATION

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EDUCATION

August 2007–present

Studying for a **PhD in Computer Science at Canterbury University, NZ**

- Topic: *Real-time computer vision for robot navigation*

2001–2005

MA (hons) in **Maths and Computer Science at Cambridge University, England**

- Final Result: **First Class**, winner of College Prize for best performance
- Consisting of a full three-year Maths degree at Gonville and Caius college (final result 2-1) followed by a one-year Computer Science conversion course at St Edmunds college.

1995–2001

William Howard School, Brampton, Cumbria, England

- A-Level results: Mathematics, Physics, Chemistry, General Studies, AS Further Mathematics all at grade A
- GCSE results: 9 at grade A*, 2 at grade A

EMPLOYMENT

Geospatial Research Centre, Christchurch, NZ

August 2007–August 2009

Research Scientist

- Wrote software implementing several feature trackers in C++
- Jointly designed and implemented a real-time video mosaicing scheme
- User interface design and implementation using Qt
- Conducted a survey of NZ Geospatial organisations and co-authored the New Zealand Geospatial Capability report

Infinity Solutions, Palmerston North, NZ

October 2006–May 2007

Developer Analyst

- Windows application development using Delphi/SQL Server

Autonomy Ltd, Cambridge, England

October 2005–June 2006

Computer Programmer

- Worked on the IDOL Server development team designing and implementing new query distribution and software load-balancing features for Autonomy's core product: a natural language database server providing search and automatic information processing to many blue chip companies.
- Wrote Perl scripts to automate unit tests and stress tests across networked Unix/Linux machines.
- Worked in a small team refactoring the intelligent agent and user administration components.

Zircadian Ltd, London

July–September 2003

Software Developer

- Wrote a data validation and reporting tool for UK health service, using VB6/T-SQL
- Worked in a team of five developing a reporting and auditing tool

PHD RESEARCH	<p><i>Computer vision for robot navigation</i></p> <ul style="list-style-type: none"> • Currently adapting object recognition and machine learning techniques to develop a robust solution to the problem of Simultaneous Localisation and Mapping with a single camera, allowing a mobile robot to navigate unknown environments in real-time.
PEER-REVIEWED PUBLICATIONS	<p>T. Botterill, S. Mills, and R. Green. New conditional sampling strategies for speeded-up RANSAC. To appear in <i>Proceedings of the British Machine Vision Conference</i>, 2009.</p> <p>T. Botterill, S. Mills, and R. Green. Speeded-up Bag-of-Words algorithm for robot localisation through scene recognition. In <i>Proceedings of Image and Vision Computing New Zealand</i>, pages 1–6, Nov. 2008.</p>
CONFERENCES ATTENDED	<p>The <i>4th Summer School on Simultaneous Localisation and Mapping</i>, Sydney, 2009</p> <p>The <i>23rd International Image and Vision Computing New Zealand Conference</i>, Christchurch, 2008</p>
COMPUTER SKILLS	<p>Expert software engineer:</p> <ul style="list-style-type: none"> • Proficient in: C++, C, Java, Visual Basic, Delphi, SQL, Perl • Experienced with the latest development tools under Linux and Windows: Eclipse and Visual Studio, gcc and Valgrind, svn and Perforce, UML, Rational Purify • Mathematical tools: Maple, Mathematica, R, Matlab <p>Studied a wide range of topics including algorithms, software design, database design, software engineering, distributed and concurrent systems, numerical analysis, computer graphics, computer design, security, and completed a group project (implementing a CAD package using Java) as part of my computer science course.</p>
OTHER SKILLS AND INTERESTS	<p>Nationality: British, NZ Permanent Resident since 2006</p> <p>DOB: September 1982</p> <p>Full NZ driving license held since 2007 (UK driving license held since 2000)</p> <p>Active whitewater kayaker and cyclist</p>
REFEREES	<p>Dr Stephen Mills (<i>PhD Supervisor and co-worker at the Geospatial Research Centre</i>)</p> <p>Dr Richard Green (<i>PhD Supervisor at Canterbury University</i>)</p> <p><i>Contact details available on request.</i></p>