

David Lindsay BSc.

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Personal web page: <http://www.david-lindsay.co.uk/cv.html>

Profile

A self-motivated, honest and hard-working individual with an open-minded, committed approach to scientific research and its application to real life problems.

D.O.B: 26th September 1979, **Nationality:** British

Education & Qualifications

PhD Student: Machine Learning Approaches To Probability Forecasting.

Computer Learning Research Centre, Royal Holloway, University of London, Surrey. 2002 – present.

This research investigated the quality of probability forecasts made by Machine Learning algorithms on highly complex real life data from various problem domains: finance, medical, bioinformatics, chemistry, physics, text mining and sports/gambling. I have introduced various meta-learning algorithms that output reliable probability forecasts, which are highly practical for cost-sensitive decision making domains. During my PhD I have been involved with teaching various undergraduate courses and was awarded the [College Teaching Award For Postgraduates 2004](#) for my innovative teaching material.

1st class Computer Science and Mathematics Jnt. Hons. BSc.

Royal Holloway, University of London, Egham, Surrey. 1999 – 2002.

Overall average 87%. Excelled in modules such as Computational Finance, Probability Theory, Computer Learning, Neural Networks, Bioinformatics, Logic and Artificial Intelligence, Cipher Systems and Quantum Computation and Information Theory. Won various awards: [Best Computer Science Finalist 2002 Medal](#), [IMA Award 2002](#) Excellent Joint Mathematical Science Finalist, [Driver Prize 2001](#) First Year Essay on [Fractals](#).

‘A’ Levels: *The Brakenhale School, Bracknell, Berkshire. 1996 – 1999.*

Computing: **A**, Mathematics: **B**, Physics: **C**, Economics: **C**

GCSE’s: *The Brakenhale School, Bracknell, Berkshire. 1991 – 1996.*

Nine GCSEs (grades **A – C**)

Employment History

Teaching Undergraduates *Computer Science Department, Royal Holloway University. Sept 1999 – present*

I had many teaching roles which included lecturing, marking and designing course material. I enjoyed developing and teaching material for the CS392 Computer Learning course (for which I won the college teaching prize for in 2004).

Research Assistant. *Computer Learning Research Centre, Royal Holloway University. July 2002 – Sept 2002*

Designed and developed the CLRC website (<http://www.clrc.rhul.ac.uk>). Implemented wide range of advanced pattern recognition software tools with GUI interface for research staff. Analysed medical data for St. Bartholomews Hospital, London and Glasgow Royal Infirmary, and developed web based diagnostic tools for medical staff.

Consultancy Librarian. *Hewlett Packard Pinewood, Bracknell, Berks. June 2000 – Sept 2000*

Designed and created website for HP Consultancy Library. Organised and implemented the outsourcing of hardware and software needed to develop a large web based database of knowledge capital accumulated by HP consultants. Organised and ran training for HP consultants using the new web based system.

Various Temporary Jobs *May 1993 - Sept 1999*

Hewlett Packard, Dell Computers, Siemens-Nixdorf, Daler-Rowney, Lucas Graphics, Bytech Computers, The Brakenhale School, Wentworth Golf Course.

Skills

- **Programming Skills:** Java, MATLAB, Perl, Bash Shell, Latex, C++, Pascal, JavaScript, HTML, XML, CSS, SQL, Prolog, S+, R.
- **IT Skills:** Microsoft Word, Access, Excel, Publisher, PowerPoint, Internet Explorer, Netscape, FrontPage, Outlook Adobe Photoshop, Lotus Softsuite, Page Maker, Paint Shop Pro, Dreamweaver, Hot Metal Pro, Visio, Windows .31, '95, '98, NT, XP, Unix/Linux.
- **Communication & Social Skills:** Developed from giving lectures and presentations within my department and at conferences.
- **General Work-Related Skills:** These skills were acquired from every job I have had. These include time management, organisation, fire/health/safety training and so on.
- **Other:** Purple belt in kickboxing, robotics design using LEGO Mindstorms.

Interests

Kickboxing, weight-lifting, playing HSBC fantasy stocks, reading, basketball, football, badminton, cycling, golf, art, cinema, building robots with LEGO Mindstorms, playing board games, oil painting.

References

Professor Volodya Vovk (PhD Supervisor), Room 111, Computer Science Dept., Royal Holloway University of London, Egham, Surrey, TW20 OEX. vovk@cs.rhul.ac.uk

Professor Glyn Harman, Room 244, Mathematics Dept., McRea Building, Royal Holloway University of London, Egham, Surrey TW20 OEX. g.harman@rhul.ac.uk

Publications

Lindsay D., Cox S. Improving the Reliability of Decision Tree and Naive Bayes Learners, *Fourth IEEE Int. Conference on Data Mining*, 459-462, Nov 2004.

Lindsay D. Effective Confidence Region Prediction Using Probability Forecasters, *10th Conference on Artificial Intelligence in Medicine (AIME 2005)*, To Appear.

Lindsay D., Cox S. Effective Probability Forecasting for Time Series Data Using Standard Machine Learning Techniques, *3rd Int. Conference on Advances in Pattern Recognition (ICAPR 2005)*, To Appear.

Vovk V., Lindsay D., Nourtdinov I. and Gammerman A. *Mondrian Confidence Machine*, On-line Compression Modelling Project, <http://vovk.net/kp>, Working Paper #4 2002.

Lindsay D. *Visualising and improving reliability – a machine learning perspective*. CLRC-TR-04-01, Technical Report, CLRC, Royal Holloway University of London, Egham, Surrey, 2004.

Lindsay D. *Reliable Probability Forecasting Using the Venn Probability Machine Learner*. CLRC-TR-04-02, Technical Report, CLRC, Royal Holloway University of London, Egham, Surrey, 2004.

Lindsay D., Effective Multi-Class Probability Forecasting with K29 Meta-Learners, *21st Conference on Uncertainty in Artificial Intelligence (UAI 2005)*, Under Review.

Lindsay D., Probabilistic Prediction of Sports Events: A Comparison Of Bookies and Machine Learning Methods, *Fifth IEEE Int. Conference on Data Mining (ICDM 2005)*, Under Review