

Richard Morris

Curriculum Vitae

Date of Birth: 5th July, 1965
Nationality: British

1 Lerryn View
Lerryn
Lostwithiel
PL22 0QJ

Tel: Home 01208 872963
Mob: 07858 385 357
Email: rich@singsurf.org
Web: singsurf.org

Key Skills

- Teaching/Training skills – 18 years experience
- Computer Programming – 30 years experience in Java/C#/C and many other languages.
- Mathematics – specializing in differential geometry, shape analysis and 3D mathematical graphics. Ph.D. & 10 years research experience.
- Management skills – ran a small charity, with responsibility for all management and administrative duties.

Work Experience

Jan 2016–
Present

Seasonal Lecturer

Cornwall College, St Austell/Camborne

- Teaching Visual Programming on the Foundation Degree Program
- Taught A level Maths and A level further Maths
- Taught Microsoft MCP/MCA HTML5/JavaScript on a software apprenticeship program
- Reviewed course material for potential online degree program

Sept 06–
present

Software Developer / Partner

singularsys.com

Developing the Java Expression Parser (JEP) a library for parsing and evaluating mathematical expressions. My work has involved creating a configurable parser to enable easy end-user customisation, creating a very fast evaluation system and adding multi-threading and serialization capabilities. The library began as an open-source project and is now being sold commercially. I am one of two partners.

Sept 06–
present

Self-employed mathematics tutor/home education teacher

Teaching science classes to groups of home educated students with ages from 7 to 16.

Offering private mathematics tuition to a number of students from 7 to 20. This work has included teaching mathematics a small group of home-educated children and degree level mathematics.

Feb 08–
Feb 10

Seasonal Lecturer

Cornwall College, St Austell

Teaching IT and software development courses for a BTEC National Diploma for IT Practitioners. Duties included developing course material, delivering classes, student assessment, and acting as a personal tutor.

Oct 07–
Jan 08

Mentor

Unlocking Cornish Potential/Ashley PR

Providing mentoring support for a new graduate in a small business, involving creation of a Drupal content management system.

July 01–
July 08

Full Time Volunteer/Manager/Trustee

Plants For A Future: Lerryn, Cornwall.

Management roles in developing an education centre for the dissemination of information on useful plants. Roles have included: managing charity finances; preparation of newsletter, annual reports and accounts; running a training/volunteer program; employment of contractors; and the disposal of charity land, raising over £100K for the charity.

Sept 95–
Dec 09

Website Manager

Plants For A Future, Lerryn, Cornwall.

Developing and maintaining a website for a registered charity, which was getting over a million page hits per month. Developed an of an online database of plant information initially using CGI and C programs and more recently a PHP/MySQL version which allows community contributions. Developed a CD-ROM version of the database using Access and Visual Basic. Introduced advertising and e-commerce systems which formed the backbone of the charity's income.

Oct 99–
July 01

Part Time Tutor

ShIPLEY College, ShIPLEY, Bradford; Training Dept. Leeds City Council; Leeds College of Technology.

Taught courses: C++ (City&Guilds Levels 1–3); Web Page Design (C&G Level 2); Java (C&G Level 3); Key Skills I.T (edexcel); Introductory IT and Basic Skill at the "Big Issue"; Introductory IT at Adult Education classes.

Oct 98–
July 00

Research Fellow: Shape Changes in the Human Face

Department of Statistics, University of Leeds

Investigating how the shape of the human face changes through childhood. Involved: extracting geometric features to describe the face via a combination of Perl, C and the statistical language R; working with VRML and other 3D formats; performing statistical analysis of the results; presenting the results of the project at a number of international workshops and conferences.

Nov 96–
Sept 98

Research Assistant: Characterizing object trajectories

School of Computer Studies, University of Leeds

Developing techniques to characterize the paths of people walking through car parks, in particular their interactions with other objects. I have developed a novel algorithm based on using landmark data which has shown promising results. This has also involved work on real time tracking systems using active contour models.

May 96–
Sept 96

Research Assistant: Image Analysis of X-ray Images

Department of Statistics, University of Leeds.

Developing algorithms for finding detonators in X-ray images of suitcases. Techniques such as morphological operators, Hough transforms and cross-correlations have been combined to produce a fairly quick algorithm which can work on cluttered images. I have also helped in investigations into the curvature of spines.

Nov 93–
March 96

Research Assistant: Computer Algebra Support

Department of Applied Mathematics, University of Liverpool.

Developing computer based teaching material for first year mathematics undergraduates. Including the co-writing of one module using the Toolbook package and providing technical support for the computer algebra need of the "Mathwise" program which involves over thirty universities.

Mar 90–
Oct 93

Research Assistant: Geometric Software Development

Department of Pure Mathematics, University of Liverpool

Developing software for visualizing a wide variety of mathematical curves and surface, research into 3D geometry and administrating a small network of Unix workstations.

Education and Qualifications

Oct 06–
Dec 06

NCFE Level 3, Certificate in Preparation for Business

Truro College, Truro, Cornwall. (Awarded 23/2/07)

Oct 04–
June 05

***Post Graduate certificate in Education (Post Compulsory Education)
PGCE(PCE)***

Cornwall College, St Austell / University of Exeter. (Awarded 31/10/05)

Taught classes in Mathematics/Statistics (Access to HE), Web page design, Intermediate and Advanced Excel.

Research project on analysing learning styles through classroom observation.

Oct 03–
Dec 03

Certificate in Further Education (City & Guilds 7407 Stage 1)

Cornwall College, St Austell. (Awarded March 04)

Oct 87–
Apr 90

Ph.D., Pure Mathematics/Information Technology,

University of Liverpool. (Awarded 17/12/90)

Investigation of various topics in curve and surface geometry using mathematical techniques in singularity theory and experimental investigation with computer graphics.

Oct 86–
Sept 87

M.Sc., Pure Mathematics.

Manchester University. (Awarded 4/07/1988)

Oct 83–
June 86

B.Sc. grade II(i), Mathematics (Pure Mathematics).

University of Kent at Canterbury. (Awarded 19/07/1986)

Third year dissertation: "Euler's theorem". I won a prize for examination results in the first year.

Oct 76–
July 83

St Georges School, Harpenden,

A levels: Maths A, Physics A, Further Maths A, Mathematics special paper grade 1. **A/O level:** Computer Science B. **O levels:** Maths A, Physics A, Biology B, Chemistry B, Geography B, Economics B, English C.

Computing Skills

Computer
Languages:

Java, C, C#, C++, JavaScript, HTML5, SQL, XML, Fortran, Basic, Z80 assembly, Pascal, tk/tcl, Perl, PHP, Python

Other
Computing:

MS-Access, Excel, LaTeX, Postscript, Maple, Unix administration.

Other Activities

2015– Present	Ki-Aikido Teacher, 2nd Dan. Taught a small class for five years
2014– Present	Board member, Lerryn Village Website. In 2019 helped oversee a redesign of the website to increase accessibility and bring it up to modern web design standards.
2010– Present	Administrator on Wikipedia. Helped with a project to rework the mathematical formatting system, and fixing syntax errors across all language wikis.
2007– Present	Chair of Los-Samba, a samba band based in St Austell

Publications

A New Method for Drawing Algebraic Surfaces, R. J. Morris, in *Design and Applications of Curves and Surfaces*, Ed R.B. Fisher, Clarendon Press, Oxford, (1994).

Sub Parabolic Lines on Surfaces, R. J. Morris, in *Mathematics of Surfaces VI*, Ed. Glen Mullineux, IMA new series 58, Clarendon Press, Oxford, (1996).

Sequences and Series, D Hodgekinson, R. J. Morris, Mathwise module, UK Mathematics Courseware Consortium, (1996).

Rules of differentiation (PC Version), G. Wood, A. Thomas, R. J. Morris, Mathwise module, UK Mathematics Courseware Consortium, (1996).

The Use of Computer Graphics for Solving Problems in Singularity Theory, R. J. Morris, in *Visualisation and Mathematics*, Ed. Hans-Christian Hege and Konrad Polthier, Springer Verlag, pp 53–66 (1997)

Knowledge Based Geometric Object Recognition, R. J. Morris, K. V. Mardia, C. C. Taylor, J. D. Burrows Proc. European Conference on Security and Detection . IEE Conference Publications No. 437 (1997)

Statistical Models of Object Interaction, R. J. Morris, D. C. Hogg, proc. IEEE Workshop on Visual Surveillance, Bombay (1998).

Exploratory Analysis of Facial Growth, R. J. Morris, J.T. Kent, K.V. Mardia, R. G. Ackroyd, M. Fidrich, A. Linney, Proc CISST, Las Vegas (1999).

Analysing Growth in Faces, R. J. Morris, J.T. Kent, K.V. Mardia, R. G. Ackroyd, M. Fidrich, A. Linney, Proc. Leeds Annual Statistical Workshop, Leeds (1999).

Analysing growth in faces., Morris, R J, Kent, J T, Mardia, K V, Fidrich, M, Aykroyd, R G, and Linney, A in Proceedings Conference on Imaging Science, Systems and Technology Las Vegas pp 404–410, (1999).

Estimation of torsion Mardia K.V., Morris R.J., Walder A.N., Koenderink J.J. Journal of Applied Statistics, 26(3), 373–381.

A Growth Model for Shape, R. J. Morris, J.T. Kent, K.V. Mardia, R. G. Ackroyd, Proc. Medical Image Understanding and Analysis, London (2000).

Statistical Models of Object Interaction, R. J. Morris, D. C. Hogg, International Journal of Computer Vision, (2000).

A parallel growth model for shape. Morris, R J, Kent, J T, Mardia, K V and Aykroyd, R G in Proceedings Medical Imaging Understanding and Analysis, 171–174. (2000)

Procrustes growth models for shape. Kent, J T, Mardia, K V, Morris, R J and Aykroyd, R G in Proceedings of the First Joint Statistical Meeting New Delhi, India. 236–238. (2000)

Functional models of growth for landmark data. Kent, J T, Mardia, K V, Morris, R J and Aykroyd, R G in Proceedings in Functional and Spatial Data Analysis, eds. Mardia, K V and Aykroyd, R G. Leeds University Press, 109–115. (2001)

Zero sets of Simple Singularities of functions on R^3 , R. J Morris, Electronic Geometry Models, No. 2001.06.001–2001.06.020. http://www.eg-models.de/models/Surfaces/Algebraic_Surfaces/Singularities/. (2001)

World Wide Web as an Aid to Search and Explore New Plants of Global Importance., A.K. Chhabra, R.S. Banga M.S. Punia, K. Fern and R.J. Morris, in Symposium Proceedings, Perspectives in Medicinal & Aromatic Plants: Research & Development, Department of Plant Breeding, CCS Haryana Agricultural University, Hisar 125 004, India. pp 73–80, (2002)

A client-server system for the visualization of algebraic surfaces on the Web, R. J. Morris. In Algebra, Geometry, and Software Systems, Ed. Michael Joswig and Nobuki Takayama. Springer Verlag, pp 239–253. (2003)

Left Brain, Right Brain, Whole Brain? An examination into the theory of brain lateralization, learning styles and the implications for education. PGCE Thesis, Cornwall College, St Austell, (2005). <http://www.singsurf.org/brain/rightbrain.php>

Transitions in Dynamic Wallpaper Patterns, R.J. Morris. Symmetry: Culture and Science. Vol. 21, Nos. 1–3, p49–58, (2010)