

HUGH DENMAN

Personal Details:

Sex: Male
Date of birth: 20th September, 1978
Address: Minard, Leinster Park, Maynooth, Co. Kildare, Ireland
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Capabilities:

Digital signal processing; digital audio / video; security and cryptography; object-oriented design and design patterns.
Expert-level C++, C, Matlab; frequent use of Java, Perl, Python, PHP, x86 assembly.
Use and configuration of Windows, Linux / Unix, OS X; Apache, Samba, MySQL.
Excellent communication, presentation skills; very high level of spoken and written English including technical writing.

Current position:

Chief Software Architect, Green Parrot Pictures (part-time)

Qualifications:

B.A. Jazz Performance (2007 - expected completion 2011) at Newpark School Of Music, Ireland

Principal instrument: drum set.

Course includes composition, arranging, ear training, and performance.

Ph.D. Electronic Engineering (2000 - 2006) at Trinity College Dublin, Ireland

with Signal Processing for Media Applications Group, Electronic Engineering Department

Novel approaches to content analysis of broadcast sports video, dance video, shot change detection.

Software development for real-time music beat tracking, video processing plugins

B.A. (Hons) Computer Science (1997 - 2000) at Churchill College, Cambridge University, UK

First class honours; ranked 20th in year.

Principal projects:

- development of a system to classify paintings by artist. Involved artificial neural networks, exploratory data analysis, distributed processing. Developed in C++, C, Perl.
- development of secure email Java applet. Involved implementation of asymmetric encryption algorithms, protocol analysis, documentation. Developed in Java.

Leaving Certificate (1991 - 1997) at Maynooth Post Primary School, Ireland

A1 (honours): English, Maths, French, Applied Maths, Physics, Chemistry

A2 (honours): Irish

Scored 600 points (maximum possible)

Publications:

“Dancing to a Different Tune” by Hugh Denman and Anil Kokaram, in Proceedings of the IEE European Conference on Visual Media Production (CVMP’05), pages 147-153, London, November 2005.

“Exploiting Temporal Discontinuities for Event Detection and Manipulation in Video Streams” by Hugh Denman, Erika Doyle, Anil Kokaram, Daire Lennon, Rozenn Dahyot and Ray Fuller, in MIR ’05: Proceedings of the 7th ACM SIGMM International Workshop on Multimedia Information Retrieval, pages 183-192, New York, October 2005.

“Gradient Based Dominant Motion Estimation with Integral Projections for Real Time Video Stabilisation” by Andrew Crawford, Hugh Denman, Francis Kelly, Francois Pitié and Anil Kokaram, in Proceedings of the IEEE International Conference on Image Processing (ICIP’04), volume V, pages 3371-3374, Singapore, October 2004.

“A Multiscale Approach to Shot Change Detection” by Hugh Denman and Anil Kokaram, in Proceedings of the Irish Machine Vision and Image Processing Conference (IMVIP ’04), pages 19-25, Dublin, September 2004.

“Content-Based Analysis for Video from Snooker Broadcasts” by Hugh Denman, Niall Rea, and Anil Kokaram, in Journal of Computer Vision and Image Understanding - Special Issue on Video Retrieval and Summarization, volume 92, issues 2-3 (November - December 2003), pages 141-306.

“Content Based Analysis for Video from Snooker Broadcasts” by Hugh Denman, Niall Rea, and Anil Kokaram, in Proceedings of the International Conference on Image and Video Retrieval 2002 (CIVR ’02), Lecture Notes in Computer Science, vol. 2383, pages 186-193, London, July 2002.

Experience:

Since June 2009, I have acted as a technical consultant for iTab Ltd (www.i-tab.com). My activities have included installation and configuration of Linux on the SmartQ5 MID; rapid development of a prototype scrolling display of song lyrics with chords, with musically accurate tempo, suitable for this device; website development; assessment and selection of external programmers and development companies; and in-house consulting and training on programming and DSP.

I have been Chief Software Architect at Green Parrot Pictures since the inception of the company in 2004. I was the principal designer of a cross-platform video processing framework consisting of ~40k lines of C++ implemented by a team of 5 (including myself). I have also developed video processing plugins for Adobe After Effects and Apple's Final Cut Pro, and a prototype web-based video processing application. I have been involved in debugging and optimisation of all GPP's products on all our supported platforms.

In 2002, I developed a web-based bulk SMS platform for Phorest Communications which was used for large-scale nightclub promotions, political campaigns, and salon management.

Also in 2002, I developed and delivered a weekly programming course for 8-12 year old children at the Irish Centre for Talented Youth. The course covered QBASIC programming fundamentals, sound and graphics routines, and some simple games.

In the 1999 - 2000 academic year, I undertook incidental consultancy work for CBA Design and Marketing. This included HTML consultancy, development of Java applets, Javascript, and Perl CGI scripts, and technical mediation.

In the summer of 1999, I worked at nGame Ltd, doing games development in C under Linux. I augmented the DUMB 3d engine to incorporate sniper scopes, improved display of messages, and sliding doors.

I worked with MDC, a Dublin-based computer consultancy, from July through August of 1998. I was involved in general consultancy work, including preparation of both in-house and production reports, and also worked at web design and Java and C++ development.

Since 2008, I have been active as a jazz drummer in Dublin, playing over 200 concerts in various settings (including a sold out performance in the John Field Room of the National Concert Hall, concerts with various jazz big bands, and many private functions) and have also been successful as a drum teacher.

Honors and Awards:

Scholar of Churchill College, 1998-1999 and 1999-2000

Winner of Maynooth College prize for best Leaving Certificate results 1997

Winner of Maynooth College prize for best fifth year science results 1996

Finalist in IBM DCU All Ireland Schools Programming Competition 1994, 1995, and 1996

Competed in National Maths Olympiad 1995 and 1996 (reached second round in 1995)

Qualified for the following courses with Centre for Talented Youth - Ireland at DCU:

- 1995: Mathematical Modelling 2
- 1994: Irish Olympiad in Informatics programming course
- 1993: Computer Applications: Algorithms and Data Structures

Communication:

Membership Secretary on founding committee of Churchill College Debating Society

Winner of the Augustine Martin Memorial National Essay Competition 1996

Holder of Grade 3 Speech and Drama (Honours)

Competed in Leinster Schools' Debating Competition, 1994-95

Participated in 14th National Public Speaking Project, 1994-95

Participated in Maynooth Post-Primary Senior Debating Competition, 1995

Produced guide to the Internet for English Department of St. Patrick's College, Maynooth

Teamwork:

Station Manager, Trinity FM, 2000-2001.

Chairman, Churchill College CD Library, 1998-1999

Sailed on week-long cruise on Asgard II (Irish National Sail Training Vessel) 1996

Started Amnesty International Group in Maynooth Post-Primary School 1995

Hobbies:

Reading, principally in 20th century literature and popular science.

Playing the drums.

Referees:

Available on request.