EDWARD JAMES WILLIAMS

3 Milton Grove, Shotton Colliery, Durham. DH6 2RD | 07708675410 | peinchka@hotmail.com

Professional Summary

Experienced programmer with a life-long passion for video games, possessing a diverse background in a range of highly technical disciplines. Relish any opportunity to use maths and physics to solve complex problems and attain aesthetically-pleasing results.

Education

Sep 2018 - Sep 2019 — *M.Sc. Computer Game Engineering*, Newcastle University

Results for modules hitherto undertaken:

- **Advanced Programming for Games ---------- 89%**
- **Advanced Graphics for Games ---------- 86%**
- **Advanced Game Technologies ---------- 81%**
- **Research Methods for Gaming Innovations ---------- 83%**
- **Entrepreneurial and Enterprise Skills in the Games Industry -------- 84%**
- **Engineering Gaming Solutions within a Team ---------- 78%**

Oct 2002 - Oct 2005 — *Ph.D. Condensed Matter Physics*, Durham University

- Researched vapour-sensing properties of a novel metal-polymer composite called *Quantum Tunnelling Composite (QTC)*
- Ultimate goal was to create a hand-held electronic nose incorporating an array of sensors, each with a different polymer matrix, to determine the identity and concentration of volatile organic compounds (VOC's) in the air
- Heavily automated the experimental procedure with an elaborate, self-written LabVIEW program, providing real-time on-screen array sensor output, with monitoring and setting of parameters such as flow-rate, pressure and temperature
- Attended a 4-day conference in Austria focused around mathematical discrimination techniques (primarily, Principal Component Analysis), with a view to harnessing this knowledge to identify VOC's from the sensor array output
- In tandem, investigated signal processing and the training of a neural network
- The MoD "borrowed" (permanently, thankfully) some sensors to assess their ability to detect such agents as nerve gas
- Sadly, the electrical, chemical and mechanical history effects of QTC rendered all data unrepeatable and irreproducible
- Created a Fortran computer simulation of the I-V characteristics of QTC under varying degrees of deformation
- Cryogenic work undertaken drew the attention of NASA, who were interested in incorporating QTC into a spacesuit
- Honed written and verbal communication skills by presenting complex information to a wide range of audiences
- For many convoluted reasons beyond my control, unfortunately did not complete my final thesis
- Credited on a scientific paper related to some of this work: http://dro.dur.ac.uk/1432/1/1432.pdf

Oct 1998 - Jun 2002 — *M.Sci. (Hons) Physics, First Class*, Durham University

- Final degree mark of 74%
- Collaborated with Sony in 4th-year research project, investigating a new type of display technology known as polymer-dispersed liquid crystal (PDLC) films, with the aim of making flexible, paper-thin, television-esque displays
- Won the “J. A. Chalmers Book Prize in Experimental Physics” for achieving the joint best research project that year

Sep 1995 - Jun 1998 **East Durham Community College, Co. Durham**

- *A Levels:* *Mathematics, Further Mathematics and Physics*

Sep 1990 - Jun 1995 **Shotton Hall Comprehensive School, Co. Durham**

- *10 GCSE's*

Work Experience

09/2006 to Current ***Semi-professional keyboardist and backing vocalist***

Dixon Agency and Gladwin Management

- Weekly performances in WMC's spanning the NE of England. Currently play classic rock in a band named Rusty Haloz
- Immensely enjoy the collaboration and cooperation involved with teamwork
- Perform under pressure to tight time schedules, where punctuality, reliability and dependability are crucial

09/2006 to 09/2018 ***Professional online gambling with extensive computer programming***

Self-employed

- Wrote well in excess of a hundred computer programs ("bots"), written in AutoHotkey script language, to automate the playing of a wide variety of online casino games, with optimised strategies in order to minimise the house advantage
- Turned some casino promotional bonuses into probabilistically expected profit, proving highly lucrative for many years
- Bots used a self-devised method of optical character recognition to rapidly identify, with 100% accuracy, on-screen artefacts related to play mechanics, such as cards dealt or dice rolled
- Monte Carlo algorithms were sometimes deployed to ascertain optimum strategies
- Ventured into the realms of automating playing games of skill, where such bots easily outperformed any human player

10/2002 to 05/2005 ***Undergraduate homework marker***

Durham University

- 6 hours per week marking undergraduate physics homework and occasional mock exams
- Interspersed with sporadic laboratory demonstration

Relevant Skills

- Strongly analytical mind that revels in solving challenging and complex technical problems
- Extensive programming experience - C++, OpenGL, GLSL, C#, Fortran, LabVIEW, AutoHotkey, Turbo Pascal and BASIC
- Scrupulous attention to detail, a perfectionist attitude, and patience and determination to persevere with any problem
- Extremely eager to expand breadth and depth of knowledge in the field of computer game engineering and design

Interests and Hobbies

- Voracious reader, having read hundreds of books traversing subjects such as consciousness, the nature of reality, spirituality, philosophy, psychology, mysticism, natural healing modalities, sacred geometry and frontier science
- Compose and record music on keyboard and guitar (acoustic, electric and bass)
- Yearning to write a software synthesizer and an audio effects processor in C++ as soon as time permits