Matthew Thomas Jack

38 Beaufort Avenue
Fareham, Hampshire, UK
PO16 7PE

matthew@matthewjack.net

D.o.B: 22/04/82

Experienced games developer specialising in AI and software engineering, interested in short-term on-site work to bring experience and skills to bear on new challenges and diverse projects.

Attracted by the rich challenges of virtual worlds, I specialised in graphics at the University of Cambridge, then engaged in commercial graphics research, before returning to the source of immersive real-time that had always driven me: games. Crytek is a leader in an industry where graphics, physics, sound have become commodities, but engaging AI still has great opportunity for innovation. Now central to most gameplay, great AI is the most dramatic opportunity for your game to stand out from the crowd.

Key Experience and Skills

4 years development of CryEngine for Xbox360, PS3 and PC
Work on Crysis 1 and upcoming console titles including Crysis 2
2 years commercial graphics research and application development

Advanced: C++, STL, Perforce, hardware knowledge, profiling
Intermediate: Linux, Lua, Java, OpenGL, VTune, XboxPerf, Assembler (RISC-dialects, x86)
Basic: GIT, AlienBrain, CVS, SVN, Python, ML, LATEX, XSLT, LEX, YACC
Specialist areas: AI, optimisation, low-level hardware, divergent codebases
Languages: Intermediate German, basic French

Publications and Speaking

Game Programming Gems 8, “Code Coverage for QA”, March 2010
AiGameDev.com, Masterclass presentation**,** January 2010

Client List

Crytek UK, February 2010 – AI optimisation and troubleshooting on-site in Nottingham
Crytek Gmbh, March 2010 – On-site in USA as CryEngine licensing team AI specialist

Employment

Moon Collider Ltd, Fareham, UK — Jan. 2010 -

I established Moon Collider to provide games development expertise on a contract basis and as a foundation for my own independent projects

Crytek GmbH, Frankfurt am Main, Germany — Oct. 2005 - Dec. 2009

Crytek is the developer of FarCry, Crysis, Crysis Warhead and CryEngine3

Senior R&D AI Systems Programmer

*Initially working on Crysis and a next-gen console title as an **AI/Game Programmer**, I gained broad games development experience, then progressively focused on AI. In **January 2008** I received a mandate to form the “**AI Systems**” team, leading development of AI at Crytek and ensuring its future in a challenging multi-project, multi-studio environment. Our success was recognised in **January 2009** when the team was officially promoted to become an independent arm of R&D. We centrally coordinated AI development across the company and supported game teams and licensees. I am pleased to continue to support AI at Crytek in an occasional **contractor** role, both on-site in the studios and abroad with their licensing team.*

- Developed cutting-edge new features released with CryEngine3 for Xbox360, PS3, PC
- Reworked 100,000+ line legacy AI codebase to address needs of multiple game teams
- Worked directly on Crysis 1, Crysis 2 and an unreleased next-gen console title
- Supported and advised on Warhead and several other titles under development
- Supported licensees and other studios including on-site training
- Role included research, planning, hiring, interviewing, mentoring, scheduling...

Supervisor, Churchill College, Cambridge 2004-2005

- Part-time role teaching undergraduates Software Engineering and Advanced Graphics
- Supervised final year undergraduate project on real-time graphics and networking

Graphics Programmer, Luminova, Australia and UK 2003-2005

Working both in Australia and the UK I led the development of two cutting-edge applications to commercial success and formed a blue-sky research team.

- Applied research in the fields of Graphics, Image Analysis and Image Processing
- Developed cutting-edge Paint Explorer tech, from concept to industry-leading success
- For blue-sky research contract, **located** offices, **recruited** and **led** a graduate team
- Worked from home for 6 months in Cambridge, collaborating with Melbourne team, 2004
- Research into Direct Lighting Acceleration under Mental Ray, 2003
- Led team in Melbourne designing and building world-class LIBAT package, an advanced satellite photography 3D modelling tool, to a tight contract-driven deadline, 2003

Undergraduate Researcher, MIT, USA 2002

- 2 months collaboration with SCALE processor architectures group, designing and writing VISTA, a graphical visualisation tool for Java, 2002

Education

Cambridge University 2000-2003
BA Hons Computer Science 2:1, 2003
CMI Summer Exchange, Massachusetts Institute of Technology, 2002
Winning Group Project (LIMALOGO), Lead Programmer, 2002
Represented Cambridge at the IBM Thinkpad Challenge, 2002

St. Edmunds Sixth Form, Portsmouth 1998-2000
A-Level: Maths (A), Physics (A), French (B), 2000
AS-Level: Further Maths (A), 2000

Summer Schools 1999
Wellcome Trust Oxford Engineering Summer School, 1999
Wellcome Trust Cambridge Physics Summer School, 1999

St. Edmunds RC Secondary School, Portsmouth 1993-1998
5 A* Grade GCSE including English, French, Maths, 1998
5 A Grade GCSE including Spanish, 1998

Other Projects:

Raytracing	Researched “surface caching”, a novel approach to global illumination
LIMALOGO	A Java-based LOGO variant with multi-threading and higher-order functions
RDSCRIPT	A stack-based bytecode VM for scripting in games, designed for speed
mcover	A new, pragmatic approach to testing in games, subject of GPG8 article

About me: Thrives solving challenging problems, good with people and under pressure, independent, always positive, eager to learn, motivated, takes initiative, adaptable

Interests: Chiefly travelling, writing, climbing, hiking – and keen to give anything a try!