

CHRISTOPHER DRAGERT

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PROFILE

- Well-versed in modern game development practices and cutting-edge game AI techniques. Experienced with software engineering best practices and approaches.
- Highly interested in improving the development process for game AI, through tool support and verification, as well as creating new and exciting AI for games.
- Excellent soft skills, developed through three years working as in a professional capacity as a software sales representative.

EDUCATION

McGill University 2008 – Dec 2013
Ph.D., Computer Science

Thesis title: *Model-Driven Development of Statechart-based AI for Digital Games*

Doctoral Research: Applied software engineering techniques to game AI development. Created a robust approach for the reuse of FSM-based AI, and developed techniques for verification and AI generation. Implemented by developing Scythe AI, a middleware supporting the development of modular game AI.

Queen's University 2006-2008
M.Sc., Computer Science

Thesis title: *Generation of Concurrency Controls Using Discrete-Event Systems*

Master's Research: Focused on verification and validation of concurrent software, as well as the use of formal models to automatically generate provably correct code.

B.Sc., Engineering Physics, Computing Option 1998-2002

TECHNICAL SKILLS

Programming Languages: Java (6 years), C++(2 years), C#(1 year)

Game AI: Extensive experience with Finite-State Automata (HFSMs and Statecharts). Highly knowledgeable on game AI in general (e.g., behaviour trees, goal-oriented, pathfinding)

Tools: Unity, Visual Studio, Eclipse, Netbeans, IBM Rational Architect, Version Control (SVN, Perforce), Ogre3d, JMonkey, OpenGL

Development Approaches: Design Patterns, Unit Testing, Model-Checking, Code Generation, Software Modelling, Procedural Terrain and Content Generation, Agile

SELECTED PUBLICATIONS

1. **Dragert, C.**, Kienzle, J., and Verbrugge, C., "Scythe AI: A Tool for Modular AI Reuse", in *The 9th Annual AAAI Conf. on AI and Interactive Digital Entertainment*, pp. Oct. 2013,
2. **Dragert, C.**, Kienzle, J., and Verbrugge, C., "Statechart-based AI in Practice", in *The 8th Annual AAAI Conf. on AI and Interactive Digital Entertainment (AIIDE-2012)*, pp. 136-141, 2012.
3. **Dragert, C.**, Kienzle, J., and Verbrugge, C., "Reusable Components for Artificial Intelligence in Computer Games", in *Proc. of the 2nd Intl. Workshop on Games and Software Engineering*, pp. 35-41, 2012.

4. **Dragert, C.**, Kienzle, J., Vangheluwe, H., and Verbrugge, C., “Generating Extras: Procedural AI with Statecharts”, in *McGill University, School of Computer Science, SOCS-TR-2011.1*, pp. 13, 2011.

PROJECT PORTFOLIO

A full project portfolio, with code samples, demos, and videos can be found here:
www.cs.mcgill.ca/~cdrage/projects.html

PROFESSIONAL EXPERIENCE

School of Computer Science, McGill University

Course Lecturer, Modern Computer Games (COMP 521)

Winter 2013

Prepared and delivered a graduate level course on modern computer games. Topics included game design and narratives; physics and game engines; AI, NPCs, and path-finding; and networking and multiplayer. Met or exceeded departmental averages in every teaching evaluation category.

McGill University & Queen’s University

Teaching Assistant

2006-2012

Held 10 TA positions, including courses on AI, modern computer games, object-oriented design, and human-computer interaction. Duties included grading, and meeting with and supervising students.

Faculty of Engineering, Queen’s University

Research Assistant

2008

Performed Java development on IDES, a graphical system for inputting and solving discrete-event system problems. Also included static verification of correctness of mathematical operations.

Nortel Networks

Software Prototyper

2006

Created internal software prototypes to showcase applications of emerging technologies for telephony applications using AJAX, Javascript, and SIP.

Omnivex Corporation

Inside Sales, Sales Representative

2002 – 2005

A professional sales position, my main duty was account management and customer acquisition. The role included significant technical work in planning and implementing customer systems, including acting as sales liason to the core software design team.

PROFESSIONAL ACTIVITIES

International Game Developers Association, Member

2012-present

Ubisoft Academia Competition, McGill Internal Judge

2013

Reviewer, IEEE Trans. on Computational Intelligence and Artificial Intelligence in Games (TCIAIG) 2013

Society of Graduate and Professional Students, Departmental Representative

2007 – 2008

PERSONAL ACTIVITIES

Volunteer - McGill Women’s Basketball (Varsity Sport)

2010 – 2011

McGill Men’s Ultimate Frisbee (Varsity Sport)

2008 – 2010

Montreal Ultimate Association, Team Captain

2010-2012