

Aline Normoyle

Ph. D Candidate
Department of Computer and Information Science
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Education

University of Pennsylvania

Ph.D. Computer Science	2009-current
M. Eng. Computer Graphics and Game Technology	2009

McGill University

B.Sc. Honors Computer Science, Dean's Honor List	1999
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Publications

Zhao, L., Normoyle, A., Khanna, S., Safonova, A., "Automatic Construction of a Minimum Size Motion Graph" ACM SIGGRAPH/Eurographics Symposium on Computer Animation, New Orleans, 2009.

Knight, K.M., Chandrasekaran, D., Normoyle, A., Weaver, R., Silverman, B.G., "Modeling Transgressions in PMF-serv" AAAI-08 COIN Workshop

Summers, V.A., Normoyle, A., Flo R., "Increasing Situational Awareness by Combining Realistic and Non-Realistic Rendering Techniques" 10th International Command and Control Research and Technology Symposium 2005

Professional Experience

ACASA, University of Pennsylvania Philadelphia, PA, Sr. Programmer/Analyst, 2006-2008

NonKin Village

Managed, designed, and developed the simulation of a fictional Iraqi town (100+ residents) for a counter insurgency training game; Integrated existing and new models with cultural research, training materials, interactive narrative and plug-n-play training content; built narrative authoring tools and interactive 2D map framework; wrote budget and scheduling plans, technical proposals; executed project management; and presented project status to contract sponsors.

PMFServ

Overhauled software framework for designing and testing BDI agents: Improved performance 90+%; Designed new "Agile Agent Architecture" and implemented new plugin framework; Streamlined GUI; Ported social models to framework.

InsurgiSim and CrowdSim

Managed and mentored student teams for insurgent simulation projects; Integrated student work with JSAF and spearheaded the final, stable executables.

MAK Technologies

Cambridge, MA, Senior Software Engineer, 1999-2006

Senior developer for applications, utilities, toolkits, and demos for distributed simulation tools. Developed over five new applications and APIs (contributing to six out of ten of MAKs 2006 product suite); developed internal applications for license management and demo creation; worked daily to solve customer problems; wrote documentation and training materials; demoed software at over 15 tradeshow and workshops, and released over 30 product distributions.

Stealth/vpNet

Lead Engineer, 2002 - 2006

<http://www.mak.com/products/stealth.php>

Designed and developed the MAK Stealth 6.0 series framework, GUI, and associated APIs (800+ classes, 12+ third party dependencies, and supporting features such as sound, joystick, effects, remote control, and custom model memory paging). Between 2002 and 2005, Stealth sales doubled due to improvements in the tool. Aided project scheduling and management.

Designed and developed the StealthXR 1.0 series, an exaggerated reality visualizer for distributed simulation; Implemented features for the non-photorealistic rendering of entities and terrains as well as exaggerated non-perspective views to produce a gods eye overview of a battlefield. In 2005, Stealth sales rose 34% from 2004, 25% of which were due to StealthXR sales.

Worked with company partners in developing sister products and plug-ins; Helped resolve integration problems and setup demos, for example, with Joint Forces Commands (JFCOM) 2005 I/ITSEC Joint Virtual Training Special Event (JVTSE), which consisted of over 50+ participants, 1000+ entities, and 5Gb terrain playing together in a virtual environment

VR-Forces Remote Control API

2002

Designed and implemented version 1.0 of the network interface between a computer generated forces (CGF) simulator and front-end plan view display; Implemented TCP/IP,UDP socket communication and packet protocols; Designed API to abstract implementation details from users.

RTI-Spy

2001 - 2002

<http://www.mak.com/products/rti.php>

Designed and developed version 1.0 of the RTI Spy API and RTI Spy Console. In 2002, RTI Spy sales helped contribute to nearly half of all RTI sales.

VR-Link

2000 - 2002

<http://www.mak.com/products/vrlink.php>

Implemented DIS/HLA protocols; Participated in SISO meetings during the design on the RPR FOM 1.0/2.0 standards.

Teaching Experience

University of Pennsylvania, Student Instructor

CIS 563: Physically-based Animation (Joe Kider) Spring 2011

University of Pennsylvania, Teaching Assistant

Winner of the University of Pennsylvania Teaching Practicum Award 2010

CIS 563: Physically-based Animation (Dr. Alla Safonova) Spring 2010

CIS 660: Advanced Graphics (Dr. Steve Lane) Spring 2010, 2011

CIS (EAS) 499: Senior Capstone Project (Dr. Alla Safonova, Dr. Norm Badler, Joe Kider)

- Character Animation using Overlays in Video Games (Ramkrish Raja) Spring 2010
- The name of the game is: "Flex" (Tamara Levy) Spring 2010
- Cyber-enabled capture of human behaviors (John Drake) Fall 2009

Department of Computer Science, McGill University, Teaching Assistant

Introduction to Computing (Dr. Laura Hendren) 1999

Skills

- Programming (C++, C, Python, JAVA, Matlab, OO, Design Patterns, Templates)
- UNIX (Linux, Solaris, IRIX) and win32 working environments
- Graphics and physics programming (OpenGL, Maya Plugin API, Gamebryo, PhysX, CG, CUDA, Processing)
- Graphical User Interfaces (QT, WxWindows, Motif, MFC, AWT/SWING)
- 3D Modeling and graphics (Maya, GIMP, Inkscape)
- Network programming (UDP, TCP/IP, sockets, military protocols (DIS, HLA, RPR FOM))
- Experience with Vicon Motion Capture System
- Data manipulation (Scripting, Excel, XML)
- Software Project Management (SVN, CVS, Makefiles, MSDev)
- Web programming and databases (HTML/CSS, PHP, Javascript, ActionScript, MySQL)