IGOR MORDATCH

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Tel: (416) 503-9954 Email: mordatch@dgp.toronto.edu

EDUCATION

- Master of Science, University of Toronto — September 2008 – present
  Computer Science (Computer Graphics Concentration)

- Hon. Bachelor of Science, University of Toronto — September 2003 – June 2008
  Computer Science Specialist and Mathematics Minor

TECHNICAL SKILLS

- C/C++, C#, Python, Matlab, Java, SQL, UML, STL, MFC, Visual Studio, Perforce
- Maya API/MEL, 3ds Max API/Maxscript, OpenGL/GLSL, DirectX/HLSL
- Object-oriented programming, version control, automated testing, Linux development, Vicon iQ motion capture
- Mathematics, numerical analysis, machine learning, experiment design

WORK EXPERIENCE

Technical Director Intern — June 2008 – August 2008
Pixar Animation Studios — Emeryville, CA

- Created global technology that fit within existing production pipeline
- Projects included physics-based object scattering system for Maya and implementation of inverse kinematics controller and skin deformer for proprietary software
- Performed tool presentations and collected feedback from users

Rendering Consultant — September 2007 – March 2008
Copperheart Entertainment Inc. — Toronto, ON

- Created a physics-based watercolor painting simulation system using the GPU
- Applied the system to interactive painting and non-photorealistic rendering for an upcoming animated short film
- Communicated with director and adjusted implementation to achieve the desired look

Research Assistant — May 2006 - May 2007
Autodesk Inc. — Toronto, ON

- Participated in design and provided mathematical implementation of an intelligent, scene-aware 3D navigation system
- Developed architecture and API of a library used by multiple product teams and supervised its integration into the products
- Implemented additions and optimizations to Maya Nucleus simulation technology
- Created research prototypes as standalone applications and Maya plugins

Project Designer September 2005 - May 2006
University of Toronto Toronto, ON

- Created a node-based animation interface for 3ds Max using plugins and Maxscript
- Implemented machine learning methods to visualize large animation datasets and synthesize new animation based on previously-observed examples
- Performed oral and video presentations on research findings and project progress

Software Developer December 2003 - October 2004
Elite Integrated Systems Ltd. Toronto, ON

- Developed software for GO Transit's Automated Fare Collection System
- Created and tested C++ and Win32-based software for data transfer, control, testing, and maintenance of networked portable ticket issuing devices
- Participated in creation of specifications and technical documentation

3D Artist / Instructor June 2002 - October 2002
Mark Nawrocki Architect Inc. Toronto, ON

- Created 3D architectural visualizations in 3ds Max based on AutoCAD floor plans
- Performed modeling, texturing, lighting, animation, rendering, and printing
- Trained a team of employees from various disciplines to use 3ds Max

PUBLICATIONS

- *"Multiscale 3D Navigation."* I3D 2009. With J. McCrae, M. Glueck, A. Khan
- *"ViewCube: A 3D Orientation Indicator and Controller."* I3D 2008. With A. Khan, G. Fitzmaurice, J. Matejka, G. Kurtenbach
- *"Safe 3D Navigation."* I3D 2008. With A. Khan, G. Fitzmaurice, J. Matejka, G. Kurtenbach
- *"Interface Techniques for 3D Control of Spatial Keyframing."* SIGGRAPH 2007 Posters. With P. Coleman, K. Singh, R. Balakrishnan
- *"Spatial Pose Trees: Creating and Editing Motions Using a Hierarchy of Low-Dimensional Control Spaces."* University of Toronto Technical Report CSRG-558. With P. Coleman, K. Singh, R. Balakrishnan

PERSONAL INTERESTS

Computer graphics and animation, machine learning, sculpting, life drawing, Aikido, swimming, running

REFERENCES

Available upon request