

Robert Backman

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Education

University of California, Merced	M.S. Computer Science	expected Dec 2013
University of California, Merced	B.S. Mechanical Engineering: with honors	2010

Projects

- **TDAG:** Graduate Student Researcher: 2010-present
 - Developing tools for physics based character animation.
- **Pseudoinverse Games:** Sole proprietor: iPhone/iPad game development. 2009-present
 - “[MOrbital](#)” on AppStore with 5 star rating.
 - “[BlockBlaster](#)” First app on AppStore with over 150k downloads.
- **AVR micro-controllers:** Designed and programmed embedded systems. 2007-2010
- **UCM Capstone Design:** Team leader: Designed and built 2-axis solar tracker. 2009
- **NSF-REU:** Research Assistant: Summer 2008 & 2009
 - Developed plugin and UI to export characters from Autodesk Maya.
 - Programmed real-time control module and user interface for humanoid robot.
- **UCM Senior Challenge:** Team leader: Designed and built LED circuit board. 2008

Employment

- **UCM Teaching Assistant:** second semester Java. 2010-2013
- **Freelance 3D artist:** 2003-2010
 - Low polygon models for 3D games.
 - Character/Vehicle/Level modeling, UV mapping, skinning, rigging, blend shapes.
 - Beta tested software for Strata 3D.
 - Visuals for educational presentations.
 - Contributed to Blender 3D documentation and tutorials.
- **PSD Magazine:** published in several languages. 2006-2008
 - Wrote reviews and tutorials for 3D software.
- **IMD Graphics:** 2005-2008
 - Modeled and rendered point of purchase displays for wine agency.

Skills

- **Languages:** C/C++, Objective-C, Java, MEL, Python
- **Tools:** iOS, Interface Builder, Cocos2D, OpenGL, ODE, Kinect, SVN, FLTK, QT, Raknet, Ogre
- **Software:** Maya, Visual Studio, Xcode, Blender, Wings3D, Strata3D, Photoshop, Illustrator, Blade

Publications

- **R. Backman, M. Kallmann.** *Designing Controllers for Physics Based Characters with Motion Networks*
-CAVW 2013 Soon to be published.
- **R. Backman, M. Kallmann** *Modeling Controllers for Physically Simulated Characters*
-MIG 2012 Runner up for best paper.
- **Y. Huang, R. Backman M. Kallmann** *Walking Gait Generation for HOAP3 Humanoid Robot*
-UCM SoE Technical Report 2011
- **M. Kallmann, Y. Huang, R. Backman** *A Skill-Based Motion Planning Framework for Humanoids*
-ICRA 2010