Robert W. Cheng

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WORK

Senior Technical Artist, Crystal Dynamics, August 2006 – Present

- *Lead Technical Artist, Unannounced Project*
  Responsible for guiding and tasking tech artists of different disciplines in support of project goals. Emphasized communication, education, and knowledge sharing within the tech art group in order to increase the group's effectiveness and benefit to the project team.
- *Art Production*
  Created shaders and material types using proprietary tools and custom HLSL code. Developed terrain, water, fire, full-screen effects, and character shaders including demon skin, undead flesh, and Lara Croft's environmentally responsive skin. Utilized techniques such as world-space texture mapping, light maps, ambient occlusion maps, radiosity normal maps, Gerstner waves, and other procedural vertex displacement.
- *UI Programming, LCGOL*
  Wrote script functions and native code to access and update game data through in-game scripts and UI; worked with graphic designer to implement UI features.
- *Pipeline Tools Development*
  Worked with other programmers and technical artists using MEL and Python to create tools and add functionality to game code base. Projects included: asset management tool to create and place objects such as grass, trees, and bushes in a Maya scene; plugin for importing proprietary game mesh files into Maya; game-specific enhancements to internal UI scripting language. Developed method for using vertex velocities to drive particle emission rates in Maya.
- *Shipped Titles*
  Tomb Raider (2013), Lara Croft and the Guardian of Light (2010), Tomb Raider: Underworld (2008)

Intern/Freelance Artist, Zoic Studios, September 2004 – April 2005

Created particle and rigid body effects for film and television using Maya and MEL script. Built 3D set reconstruction in Maya for use as collision object and lighting obstacle in explosion simulation. Rotoscoped live-action footage for pilot episode of sci-fi television series. Authored PERL script to check for missing frames as part of production pipeline.

Engineer/Graphic Designer, Numerical Technologies, Inc., January 1998 – January 2002

- *Production Engineering (January 1998 – January 2000)*
  Designed graphical user interfaces for Unix and Windows NT based product line. Created technical illustrations for onscreen displays and printed documentation. Created installers for Windows NT based products.
- *Marketing Communications (1998 – January 2002)*
  Designed and built interactive tradeshow presentations using Director. Created 3D animated sequences to illustrate use of company's proprietary technology. Produced corporate presentations, product brochures, and other marketing collateral. Developed several generations of Numerical's web site and intranet.

EDUCATION

University of Southern California – M.S. Integrated Media Systems, May 2006
University of Michigan, Ann Arbor – B.S. Electrical Engineering, December 1997
Academy of Art College, San Francisco, Spring/Fall 2000 – Figure Drawing, Storyboard, Perspective, Color & Design

TOOLS

Programming/Scripting: MEL script, Python, C, C++, JavaScript, HTML. Learning HLSL
Software: Maya, Photoshop, Illustrator, AfterEffects