Dan Knowlton CG Software Engineer

dtknowlton@gmail.com | (540) 846-8378 | www.danknowlton.com

EDUCATION

Cornell University Ithaca, NY

Master of Science in Computer Graphics   Aug. 2013 - Jul. 2015
  Thesis: Physically-Based Cloudy Sky Illumination (OpenVDB/RenderMan)
  Publication: A Framework for the Experimental Comparison of Solar and
          Skydome Illumination (SIGGRAPH Asia 2014)

University of Pennsylvania Philadelphia, PA

Bachelor of Science in Engineering | Digital Media Design   Sept. 2009 – May 2013
  Awards: Summa Cum Laude | Dean's List 2010-2013 | Tau Beta Pi | Eta Kappa Nu

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EXPERIENCE

Industrial Light & Magic San Francisco, CA

Technical Assistant   Jul. 2015 – Present
  - Work with production teams and artists to manage studio render resources, monitor
    renderfarm utilization, and identify issues in the render pipeline.
  - Extend and troubleshoot the existing monitoring toolset in order to increase tool reliability
    and to allow for more complete and accurate analysis of renderfarm resources.

Blizzard Entertainment Irvine, CA

Software Engineer Intern, Cinematics R&D   May 2013 – Aug. 2013
  - Implemented a series of add-ons to a proprietary lighting tool including a reference geometry
    exporter for texture repaints and a visibility check for culling scene geometry.
  - Increased the transparency of studio task management through the development of a desktop
    notification tool integrated with Shotgun to alert producers and artists of task updates.

UPenn School of Engineering Philadelphia, PA

Teaching Assistant for Advanced Graphics and Animation   Jan. 2013 – May 2013
  - Expanded course material and taught Maya API programming in Python/C++ for the course
    that focuses on implementing recent SIGGRAPH papers as Maya plug-ins.

Software Developer & Research Assistant   Sept. 2010 – Oct. 2012
  - Managed multi-modal motion capture sessions with the Vicon Motion Capture System for
    research projects including exhaustion and human eye movement studies.

Lucasfilm Animation Nicasio, CA

Production Engineering Intern   May 2012 – Aug. 2012
  - Leveraged a Python Flask pipeline to provide Editorial and other non-technical divisions with
    the ability to run essential media generation scripts from a web browser.
  - Developed a set of annotation tools for RV that increased the efficiency of the episode
    review process and cut the number of hours required to finish a review in half.

Google Inc. Kirkland, WA

Engineering Practicum Associate Intern   Jun. 2011 – Aug. 2011
  - Designed and implemented a MapReduce pipeline in C++ allowing mathematical models
    representing the occurrence rate of time series data to be easily compared and analyzed.

COURSES

Algorithms/Data Structures	Introduction to AI (Python)	Computer Vision
Computer Graphics (C++)	Computer Animation (C++)	Unix/Linux Systems
Advanced Graphics (Maya API)	Physically Based Animation	Linear Algebra

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TECHNICAL SKILLS

Experienced: Python, C++, HTML/CSS, PySide/Qt, Maya, Git, Photoshop

Familiar: RenderMan, JavaScript, C, MySQL, PHP, Java