

Jacob Merrell

I'm a problem solver, working with people and software. What problems can I help you solve?

EXPERIENCE

LDS Motion Picture Studio, Provo UT — Look Development and Stylization Lead

JULY 2020 - DECEMBER 2023

I oversaw character shading. I built the eye shader (and associated HDA) used on all our characters. I developed a shader layering system built on USD. I prototyped different non-photoreal rendering processes from custom software written in Python, Pytorch, and C++ to processes that ran in Houdini and Nuke, all searching for a look. We finalized development with a series of blink scripts that ran in Nuke to match the look developed by concept.

Pixar Animation Studios, Emeryville CA — Character Shading Artist on Cars On the Road

APRIL 2021 - DECEMBER 2021

Pixar reached out to me for some remote work. I worked on the characters team, shading characters for the series on Disney+. I did paint and lookdev for a character in almost every short. I also re-shaded Mater, my second time doing that (I shaded him on Cars 3).

deeproot Studios, Sandy UT — Studio Look Development Lead

APRIL 2019 - JULY 2020

I built up the shading or lookdev pipeline to improve consistency and throughput while minimizing errors. I was tapped to lead the lighting team for their second 3D project and I built up a rendering and lighting pipeline to improve throughput.

Pixar Animation Studios, Emeryville CA — Character Shading Lead on Toy Story 4

JANUARY 2015 - MARCH 2019

I was responsible for selecting a team, building schedules and assigning work, guiding technology choices, and managing the aesthetic results and relationships with other stakeholders (lighting, art, and the director). I also developed software for the team to increase their productivity.

Pixar Animation Studios, Emeryville CA — Character Shading Artist on Cars 3 and Coco

OCTOBER 2015 - APRIL 2016

I refactored the cloth shader on Coco to improve its look and make it easier to use. I developed a system to generate pleasing color variation across thousands of characters. On Cars 3 I developed a nightly rendering solution that organized all character rendering. It eased the individual artist's burden and made it easier for others to see the current state of our work. That solution has been in use since Cars 3. I also developed a series of scripts to bring forward old shading on legacy Cars characters. It was used on Mater primarily.

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SKILLS

Programming

C++

Python

Javascript

OSL

QT

USD

Blink (a Nuke script)

Photoshop

Maya

Houdini

Leadership Experience

AWARDS

US Patent #10,169,909

"Generating a volumetric projection for an object" This technology was used on *Inside Out*

VES Outstanding Animated Performance in an Animated Feature - Inside Out; Joy 14th annual VES Awards

US Patent #9,208,610 B2

"Alternate Scene Representation for Optimizing Rendering of Computer Graphics" This technology was used on *Cars 2*

LANGUAGES

Spanish

Pixar Animation Studios, Emeryville CA — Character Shading Lead on Inside Out

JUNE 2012 - DECEMBER 2014

I helped develop the technology used to make Joy and the rest of the emotions, which we patented (see awards). I was responsible for organizing work, supporting the team, and making sure they had what they needed. I also managed our department's relationship with the lighting department.

Pixar Animation Studios, Emeryville CA — Software Development on Good Dinosaur

MAY 2011 - MAY 2012

I was primarily responsible for refactoring part of the surface shading code to ease the release of new features after the company switched to Global Illumination. I also mentored new hires as they supported feature development for the lighting department.

Pixar Animation Studios, Emeryville CA — Lighting Optimization Lead on Cars 2

AUGUST 2010 - APRIL 2011

I supported the lighters' toolset. I also led a team of 6 that worked with the lighters to optimize their lighting setups for render time. We also developed a rendering technique to improve our raytracing results that we ended up patenting (see awards). I also developed a web interface that let the lighting artists better track their render times.

Pixar Animation Studios, Emeryville CA — Character Shading Artist on Cars 2

AUGUST 2009 - Jul 2010

I was brought onto Cars 2 characters to support and prepare for character shading. I developed additional functionality in the shading code base to meet some challenges posed by our lighting department. I developed tools for the shading toolset to improve workflow. I also shaded a few tertiary characters.

Pixar Animation Studios, Emeryville CA — Software Developer in the Tools Group

JUNE 2009 - JULY 2009

I continued work on the lighting toolset.

Pixar Animation Studios, Emeryville CA — Lighting Artist on UP and Cars Toons

MAY 2008 - MAY 2009

I continued to support the lighting toolset. I also lit a series of shots from UP (the ones where you see the tepuis). I also supported the lighters, helping them optimize their lighting setups. On Cars Toons, I shot lit for UFM and Monster Truck Mater

Pixar Animation Studios, Emeryville CA — Software Developer on UP

JAN 2007 - APRIL 2008

While in the Global Technology department, I supported the lighting toolset. We added tools so that the lighters could light volumetric clouds, which was critical for UP. I also developed tools to improve workflows and debug lighting setups.

EDUCATION

Brigham Young University, Provo UT — *MS Computer Science*

MAY 2004 - APRIL 2008

Emphasis in computer graphics and signal processing. My thesis was how to better interpolate pixels, e.g. enlargement, “Generalized Constrained Interpolation”. I also published a signal processing paper on how to sort music based on its “sound”, “Clustering Streaming Music via the Temporal Similarity of Timbre”. I also developed a 2 1/2 dimension watercolor simulator that could take outputs from a renderer and generate a watercolor-looking frame.

Brigham Young University, Provo UT — *BS Computer Science*

JUNE 1998 - APRIL 2004

While working on my BS degree I also did animation classes on the side, including working on the senior animation project “Pet Shop”.