SCOTT MILNER — SOFTWARE DEVELOPER

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EDUCATION

Stanford University | Stanford, CA
M.S. Computer Science — Spring 2027
Brigham Young University | Provo, UT
B.S. Computer Science — Spring 2025
Animation & Games Emphasis
Minor in Mathematics
GPA 3.92

COURSEWORK

Graphics & Image Processing I & II
Software Engineering I & II
Algorithm Design & Analysis
Animated Film Production I, II, & III
Materials & Surfacing
3D Visual Effects
Multivariable Calculus
Differential Equations

ACHIEVEMENTS

Student Accomplice **(Short Film)**
Student Academy Award Winner
VES Award Finalist
Student Emmy Award Finalist
The Rookies Film of the Year Winner
Love & Gold **(Short Film)**
The Rookies Film of the Year Finalist
SKYGUARD **(Video Game)**
The Rookies Game of the Year Finalist
The Witch's Cat **(Short Film)**
Student Emmy Award Winner
The Rookies Film of the Year Finalist
Shrineflow **(Video Game)**
The Rookies Game of the Year Finalist
BYU Full Tuition Scholarship Recipient
U.S. Department of Education Presidential Scholar
National Merit Scholar

SKILLS

Languages
Python • C++ • OSL • C • VEX
Bash • MEL • TypeScript • Java
Technologies
USD • Git • Perforce • OpenGL • AWS
Qt • Docker • Qemu • Linux • Jira •
SaltStack • macOS
Software
Houdini • Solaris • RenderMan • Nuke
Tractor • Substance Painter • ShotGrid
Maya • Blender • Unreal Engine

PROJECTS / WORK EXPERIENCE

Pixar Animation Studios — RenderMan Software Engineering Intern
June 2025 – August 2025

- Migrated texture processing tool from proprietary backend to an open-source library.
- Contributed to OpenImageIO to create feature parity with an in-house image processing library (txmake).
- Updated texture tool Qt UI to support multiselection workflows and HiDPI screens.

BYU 2025 Capstone Short Film *Love & Gold* **— Lead Pipeline TD**
September 2023 – May 2025

- Wrote OS-agnostic, portable, and extensible Universal Scene Description (USD)-centric film data pipeline framework, used by a team of 50 artists in 5 DCCs.
- Worked with CFX team to integrate the Solaris Hair Procedural into a RenderMan-based environment with correct motion blur and automated caching
- Ensured code quality through automated static type checking and code formatting.
- Collaborated with artist team leads to develop pipeline tools for 6 different teams.
- Contributed additional features to a widely-used open source Maya tool.

BYU 2025 Capstone Video Game *SKYGUARD* **— Pipeline TD**
September 2023 – May 2025

- Adapted film data pipeline framework to meet the needs of a video game project.
- Developed texture packing workflow for optimizing shaders with gradient masking.

BYU CS Department — Animation Lab and Server Systems Administrator
March 2022 – May 2024

- Automated and documented lab machine disk image install via SaltStack for 90 workstations for both RHEL and Windows 10 with 6 unique hardware configurations.
- Added SSL security and department authentication integration to Pixar's Tractor render farm software with Docker.
- Designed custom high-performance GPU-passthrough Windows VM (Qemu/KVM), yielding 80 OS-agnostic workstations with simplified authentication, administration, and increased network storage speed.
- Deployed new network storage solutions, licensing, and version control servers.

BYU 2023/2024 Film & Video Game Capstones — Pipeline TD
September 2022 – May 2024

- Enhanced developer quality of life by refactoring code portability, enabling headless DCC launches, and writing documentation.
- Built and deployed containerized render farm blades, increasing render farm CPU core count by 25% and enabling the project to meet submission deadlines.
- Automated crossframe render denoising via Pixar's Tractor API.
- Deployed VM cluster for version controlled CI/CD compilation workflows.

Church of Jesus Christ of Latter-day Saints — Technology Secretary
October 2019 – November 2021

- Developed proprietary Customer Relationship Management software with the Facebook API to manage leads from online marketing campaigns.
- Designed a custom Virtual Choir animation system with Blender and Animation Nodes, allowing efficient organization and animation of 50+ video submissions.

PUBLICATIONS

- **Scott Milner**, Matthew Minson, Dallin Clark, and Craig Van Dyke. 2025. Using Local Virtual Machines to Create OS-Agnostic Workstations. SIGGRAPH Talks '25. https://doi.org/10.1145/3721239.3734118
- **Scott Milner**, Stephanie Martins, Conner Murray, Zachary Wood, and Craig Van Dyke. 2025. Implementing USD: A Case Study in Incremental Adoption. SIGGRAPH Educators Forum '25. https://doi.org/10.1145/3721242.3734008

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Dear DreamWorks Recruiting,

As a current Computer Science student emphasizing in animation, I am very interested in working as a CFX Production Intern at DreamWorks Animation. Based on the listed qualifications and my personal experience and skills, I believe that I would make a valuable contribution to the CFX Production Development Team.

DreamWorks has always brought technical and artistic expertise together into a beautiful final product. As someone who wants to build their career right at this intersection, this internship feels like the perfect fit. Graphics and rendering have fascinated me ever since middle school, and that interest only grew in my university graphics classes as I did assignments like building a ray-tracer. I'm preparing to enter graduate school in the fall, and the opportunity to work on cutting-edge software with the Rendering team aligns neatly with my career goals.

My work as a Pipeline Technical Director for three student film productions at Brigham Young University has given me a lot of exposure to the needs of lighting and rendering teams in a production environment. Over the past two years I have trained artists on more technical aspects of RenderMan, built tools to streamline rendering and lighting processes, and spent hundreds of hours troubleshooting production lighting scenes. I have built a USD-based production pipeline from the ground up and excel at picking up unfamiliar DCCs and learning their APIs. Working with limited assistance helped me discern and prioritize the most critical needs of artists and choose the best options when presented with many possible tasks. As a Pipeline TD, I have formed close relationships in diverse teams with other students of varying personalities and technical ability—I believe that I will work well with other employees at DreamWorks Animation.

In addition to my studies at BYU, I was employed for two years as an animation systems administrator. This gave me experience setting up, diagnosing, and fixing technical issues within DCCs and the Linux and Windows operating systems, as well as experience providing technical support to artists and documenting the results. Between this position and my work as a Pipeline TD, I have learned how to write code that is long-lasting and maintainable by myself and future technicians. Much of my code continues to be used and maintained by other teams of students at BYU. I am confident that I will be able to produce work that is similarly maintainable for the Rendering Team.

Thank you for your time and consideration. I would love the opportunity to further discuss how I can contribute to the Rendering Team at Pixar and become part of the studio's world-class animation legacy.

Sincerely,

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Personal Statement

Some of my earliest memories of my father are of him helping people fix their computers. He has a knack for it: neighbors would stop by and family members would drive in to get help with their afflicted laptops. They would chat with him while he worked, and I knew from a very young age that I wanted to be like him—someone who earns people's trust not only because of technical prowess, but also because they know he cares about them and their lives.

Fast-forward twenty years, and I'm chasing that goal in a way that I could never have predicted then: I got hooked on animation in middle school, spending hours upon hours teaching myself to 3D model, write shaders, and run effects simulations. In college, I continued to pursue animation, but gravitated even more technical, focusing my coursework on software engineering, mathematics, and computer graphics. Throughout it all, the thread of helping people has remained strong—I want to write software for the entertainment industry that enables artists to focus on their art.

As a newly hired systems administrator for the Center for Animation, my first semester at college showed me how fulfilling a technical career in animation can be. I was assigned to rebuild the disk image deployed on animation lab machines, a months-long task that required significant self-directed learning, experimentation, and close collaboration and problem-solving alongside coworkers unfamiliar with the needs of the Center for Animation. By automating the entire image creation process, we optimized performance of capstone (thesis)-critical softwares, made artists feel more comfortable in the Linux OS, and greatly simplified the lab maintenance process moving forward. Even after moving on from that position, systems that I put in place have remained in use and been built upon in subsequent years. Working with a team to solve this long-running problem for an interdisciplinary group of students was immensely satisfying—these are the kinds of problems I want to prepare for a career in through my studies at Texas A&M.

When I rewrote the framework that underlies BYU Animation's data transfer pipeline, my research assistantship taught me how to lead cross-department collaboration. Through problem-solving and coordinating with peers in other animation emphases, I not only improved upon the software core that drives Student Academy Award-winning films, but extended these improvements to two additional Center for Animation capstone projects. As I worked with these new projects, I learned how to onboard new members to an existing project, grow our network of contributors, and write good documentation. I ensured that all our projects rose together and nobody needlessly repeated work. I am excited by the prospect of applying my years of capstone project leadership experiences with students across several specialties and majors to my graduate studies at Texas A&M.

I am seeking a Master's of Science degree at Texas A&M to refine my skills and my capacity as a computer scientist and software developer. I want to build the tools that artists need to accomplish their best work. Texas A&M's visualization program has a unique way of bringing together technical and artistic expertise. As someone who wants to work right at this intersection, Texas A&M feels like

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the perfect fit. The technical problems that arise in content production intrigue me, and I feel at home building bridges across the gap between the technical and the artistic. I'm especially fascinated by problems surrounding artistic collaboration—organizing data pipelines and providing systems so that teams can work together on complicated projects. After organizing the rendering pipelines for two senior capstone projects and attending ACM SIGGRAPH conferences, I recognize that machine learning has vast potential for enhancing artistic productivity. As Texas A&M is also a hub for Artificial Intelligence research, I will also seek expertise in these techniques that I can apply to solving problems in animation. The ongoing research at Texas A&M in fields I am interested in, coupled with the close integration of computer science and design students makes the Master's of Science in Visualization the perfect place for me to hone my craft within.

I earned my undergraduate degree while studying under the motto "Enter to Learn, Go Forth to Serve." Studying at Texas A&M's world-class Computer Science and computer graphics-adjacent programs is the next step for me to continue that pursuit of lifelong learning and service. My scholarship at Texas A&M is a key piece of my journey towards becoming that trusted, humble, and intelligent person I saw in my father all those years ago. I am truly excited by the prospect of an education at Texas A&M and look forward to contributing my studies and life experience to the rich legacy of the Texas A&M community.

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