SUSAN XIE

PROJECTS: **https://suxie.github.io**
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EDUCATION

UNIVERSITY OF PENNSYLVANIA | August 2017 – May 2021
School of Engineering and Applied Science BSE, Digital Media Design
  MSE, Computer Graphics and Game Technology

EXPERIENCE

PIXAR ANIMATION STUDIOS RENDER TECHNICAL DIRECTOR | Jan 2023 – May 2024
Inside Out 2 (2024) – Dailies, Lightspeed, and Rendering
  ▪ sequence owner for all dailies, lightspeed, and rendering pipeline work across three sequences
  ▪ Dailies: debugged day-to-day pipeline issues, ran director reviews, and helped load-balance renderfarm
  ▪ Lightspeed: optimized renders, cleaned up noise, and debugged render artifacts
  ▪ Rendering: QC'd and fixed render frames for final delivery
  ▪ implemented additional asset-locking processes and QC checks for studio image-finaling pipeline
Art Lab – studio-sponsored space to work on various stylization and lookdev projects
  ▪ experimented with watercolor stylization using albedo and edge detection in Nuke
  ▪ implemented algorithm for pigment-based mixing of colors in Houdini (VEX) and Nuke (Blinkscript)
Elio (2025) – Dailies and Rendering
  ▪ supported sequence leads with shot QC and fixwork
  ▪ investigated memory issues and presented options for optimizations
  ▪ built out additional UI and pipeline features for studio "dailies" rendering system

SONY PICTURES IMAGEWORKS ASSOCIATE TECHNICAL DIRECTOR | Jun 2021 – Dec 2022
Spider-Man: Across the Spiderverse (2023) – Lighting / Look of Picture TD
  ▪ developed tools, debugged pipelines, and optimized renders for Katana / Nuke workflows
Examples of projects:
  ▪ DeepID system that allows collections and attributes from Katana to be accessed in Nuke
  ▪ contributed to Blinkscript tools that generate paint strokes: varying stroke transform using noise maps,
    sorting and isolating strokes by luminance, creating strokes in 2D pixel space that project and track in 3D
  ▪ auto-render tool for motion graphics: generates cheap renders with UV projection data and creates Nuke
    script so motion graphics artists never have to open Katana
  ▪ render optimization standards for lightings setups on vehicle headlights

HI-REZ STUDIOS TOOLS INTERN ▪ FIRST WATCH GAMES | Jun 2020 — Aug 2020
Rogue Company – Tools
  ▪ built UI and backend for a tool that writes and executes complex commandlines using simple user inputs
  ▪ contributed to rigging (SpringIK) and batch-scripting Maya tools

SKILLS

PROGRAMMING:
Python, PyQt, OpenCue, C++ / C, BlinkScript
(Nuke), Lua (Katana), VEX (Houdini)

SOFTWARE:
Katana, Nuke, Arnold, Renderman, Presto, Maya,
Unreal, Unity, Houdini, Adobe Suite

RELEVANT KNOWLEDGE:
 Programming: *Computer Graphics, Computer
   Animation / Physically Based Animation,
   Game Design, Physically-Based Rendering,
   Computer Architecture*
 Art: *3D Modeling, Lighting, Compositing, Shading*

PROJECTS

MINI MINECRAFT ▪ C++ (OpenGL, GLSL, Qt) — underwater themed Minecraft
  ▪ built first person physics-based game engine with walking, flying, and swimming
  ▪ implemented GUI, item bar, sound, and post-process shading effects

MINI MAYA ▪ C++ (OpenGL, GLSL, Qt)
  ▪ mesh editor & obj importer that supports joints
    and skinning built on half-edge data structure
  ▪ implemented triangulation, subdivision, skinning

PIGMENT MIXING ▪ VEX (Houdini), Blinkscript (Nuke)
  ▪ implementation of pigment-based color-mixing
    algorithm for production software
  ▪ supports opacity as pigment weights for blending

DEEPID COLLECTION SYSTEM ▪ Python, PyQT, Katana, Nuke
implementation of selectable Katana collections from Nuke DeepIDs
  ▪ Nuke script and gizmo that appends data to deep
    with UI for artists to select from deep collections
  ▪ script and macro in Katana that launches render job
    to cook katana scenegraph collections into JSON file

MONTE CARLO PATHTRACER ▪ C++ (OpenGL, GLSL, Qt)
  ▪ supports global illumination, multiple importance sampling, constructive solid geometry
  ▪ lights: area lights, point lights, spotlights
  ▪ materials: lambert, blinn-phuong, microfacets