Annette Tongsak

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EDUCATION

Oregon State University, Corvallis, OR　　　　　　　　　　　　Anticipated Graduation: June 2026
B.S. Computer Science - Applied Graphics Simulation & Game Programming　　　　　　　　GPA: 3.92
Relevant Coursework: Computer Graphics & Shaders, Linear Algebra, Parallel Programming, Operating Systems, Analysis of Algorithms, Deep Learning, Machine Learning, Software Engineering, Databases

EXPERIENCE

Crowds Technical Director Intern　　　　　　　　　　　　　　　June 2025 - August 2025
Pixar Animation Studios, Emeryville, CA

- Contributed to production shots in ***Toy Story 5***, integrating large-scale crowd simulations and character animation assets into the final production workflow
- **Reduced manual setup time by ~90%** by developing and deploying a Python automation tool using internal APIs to resolve a recurring crowds pipeline issue across production shots
- Set up, simulated, and debugged large-scale crowd scenes, diagnosing animation and performance issues within the production pipeline
- Built looping character animation assets and added animator-accessible controls to support scalable crowd systems

Pixar Undergraduate Program Technical Director Intern　　　　　　　　June 2024 - August 2024
Pixar Animation Studios, Emeryville, CA

- Completed projects across technical pipeline departments (set dressing, layout, modeling, shading, lighting, rigging, and effects) using proprietary and industry-standard tools including Maya, Houdini, Katana, RenderMan, and USD
- Collaborated on an animated short, contributing to animation and developing a facial rigging system in Blender to automate texture switching and streamline the animation workflow
- Developed a procedural animation workflow using Houdini (VEX) and Blender to utilize user-generated curves for character animation, eliminating manual keyframing

Undergraduate Research Assistant　　　　　　　　　　　　　　　June 2023 - May 2024
Oregon State University, Corvallis, OR

- Research assistant under Dr. Yue Zhang, focusing on computer graphics, data visualization, and machine learning
- Collaborated with a graduate student on a wildlife object detection model commissioned by the Oregon Department of Transportation, labeling images with bounding boxes using CVAT to prepare training data
- Developed a convolutional neural network using PyTorch to classify handwritten digits from the MNIST dataset and diverse images from the CIFAR-10 dataset

PROJECTS

Automatic Lip Sync Tool | *Python, Blender API, Whisper*　　　　　　　　January 2026 - Present

- Developing a Blender add-on to generate first-pass lip sync animation from audio, automating animation blocking and reducing manual keyframing through audio-to-phoneme alignment

Random Cobweb Generator | *C++, OpenGL*　　　　　　　　　　　　　　　December 2023

- Implemented a procedural cobweb generator in C++ and OpenGL, inspired by DreamWorks' 2011 paper "Building and Animating Cobwebs for Antique Sets"
- Applied mathematical modeling of catenary curves and parabolas to generate 3D web structures

SKILLS

Programming Languages: C/C++, Python, JavaScript, SQL, OpenGL, GLSL
ML & High-Performance Computing: PyTorch, CUDA, OpenCL, OpenMP, MPI, SIMD SSE
3D Software: Maya, Houdini, Katana, Nuke, Presto, Flow, RenderMan, USD, Blender
Developer Tools: Git, GitHub, Visual Studio Code, Visual Studio, Perforce, Jira
Platforms: Unix/Linux, macOS, Windows