Natalie O'Leary

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EDUCATION:

University of Southern California **Sept. 2021 – May 2023**

Master of Science in Computer Science: Multimedia and Creative Technologies

Princeton University **Sept. 2017 – May 2021**

Bachelor of Arts in Computer Science; Minors in Musical Theater & Visual Arts; GPA: **3.7**

RELEVANT EXPERIENCE:

Computer Generated Art Intern, Soul Machines **May 2022 – Aug 2022**

- Created a code infrastructure for importing Digital Humans from company's proprietary software to universal platforms including Maya, Unity, Unreal Engine
- Used USD to preserve all facets of Digital Humans as they are transferred between platforms
- Stress tested the look development of the Digital Humans across platforms to a consistent appearance

Coding Instructor, Code Wiz; Juni Learning **May 2021 – Present**

- Instruct students aged 7-18 in coding and robotics, including Java, Python Unity Minecraft, Roblox and robotics
- Meet each of my 14 students weekly for 1 hour one on one lessons in coding over Zoom for Juni
- Acted as a supervisor and administrator for Code Wiz, handling COVID safe protocols and safety

Teaching Assistant, Computer Science Dept. Princeton University **Jan. 2019 – May 2021**

- Instructed on course material for 3 Computer Science courses taught in Java, Python and C
- Helped students understand assignments and assisted in debugging
- Graded assignments of over 100 students in Computer Science courses weekly
- Reviewed work of 8 other graders weekly to ensure fair and consistent grading

Hollings Scholar AWS Cloud Intern, NOAA **Jun. 2020 – Aug. 2020**

- Transferred 120 TB of climate data to the cloud for NOAA's Geophysical Fluid Dynamics Lab
- Set up cloud computing through JupyterHub and ran analysis scripts on cloud data
- Collaborated with the Earth System Grid Federation to centralize inter-agency resources
- Liaised between ESGF and GFDL via Princeton's Cooperative Institute for Modeling the Earth System

RESEARCH:

Graduate Researcher, University of Southern California Graphics Lab **Sept. 2021 – May 2022**

- Worked with a team of researchers under Prof. Barath Raghavan to create a dynamic graphical representation of polyculture agroecosystems
- Simulated 5 ecosystems to create a tool to optimize and create a layout for real life polyculture farms
- Used OpenGL and GLSL to compute optimal plant configuration given light and canopy conditions

Undergraduate Thesis, Princeton University **Sep. 2020 - May 2021**

- Experimented with creating CGI bioluminescence in ocean waves under Prof. Theodore Kim at Yale
- Created large scale fluid simulations to represent ocean waves and utilized their particle systems to create the effect of tiny, glowing algae
- Simulated the acceleration and velocity of particles in an ocean wave and used that force to trigger particles to glow, as in nature

SKILLS:

Computer: Maya, Houdini, Unity, Unreal Engine, OpenGL, Java, C/C++, Python, Adobe Creative Cloud, HTML, Javascript, AWS, Go, Microsoft Office, Latex