Jacy Scharlow M.S.
Software Developer

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5+ Years of Experience	C/C++ Programming	Python Programming
Graphics API	Multi-Displined	Unreal Engine v.4 /5

EDUCATION

Rensselaer Polytechnic Institute — Troy, NY
M.S. Computer Science (**Concentration.** *Robotics/Vision/Graphics*) — *May 2023*
B.S. Computer Science | Dueled Game and Simulation Arts and Sciences — *May 2022*

RESEARCH

Maya Wrinkling Plugin — *January 2022 – April 2023*
- Constructed an efficient skinning method that generates wrinkles during a 60fps **animation** leveraging the **C++ Maya API**
- Wrote a detailed 30-page **documentation** for ease of use and extension by reviewing work parallel to the development
- Developed a robust **tool** by reducing errors through **debugging** and meticulously curating around 15-20 tests
- Communicated project status weekly to executives through engaging **demonstrations** for 50 weeks

Glass Rendering — *January 2020 - April 2022*
- Explored glass **rendering** techniques to enhance the understanding of 30 people within a **graphics engine**
- Simulated **light rendering** (reflection, refraction, caustics, etc.) with generated 1080p images through **raytracing**
- Curated prior research, documentation, and careful derivations of **linear algebra** equations from the past 30 years
- **Presented** the research findings by authoring a well-documented 7-page paper and a PowerPoint presentation

RELEVANT EXPERIENCE

Trojan Duck Games — Remote
Student Software Engineer — *August 2021 – December 2021*
- Managed code organization and modularity by reviewing 80% of all code and establishing a standard **workflow**
- Assisted in improving the **JIRA** workflow, which reduced repository errors by 70%, by working with the team lead
- Realized the studio vision by **creatively** overcoming limitations in the **Unity Engine (C#)** of 20+ levels
- Facilitated efficient cross-disciplinary **communication** through active engagement in 100% of remote meetings

Wiltune — Troy, NY
Student Software Engineer — *January 2020 - May 2020*
- Designed a responsive enemy **AI**, leveraging the behavior tree of 30+ branches in **Unreal 4** blueprints
- Built a testing level for the game mechanics that tested 100% **code coverage** using the UnrealBuildTool
- Spearheaded the initial 70% of the **narrative design** by pitching concepts through a short story and **concept art**
- Bolstered a culture of a driven and 5+ **multi-disciplinary** group that emphasized **self-accountability**

ACHIEVEMENTS AND EXTRACURRICULAR

Organizations: Member of The National Society of Leadership and Success (NSLS), RPI Women in Programming, NSLS, Varsity Track and Field, Art Club, Sole Survivors

Achievements: The Dean's Honor List, 4x Track & Field All American, RPI Olympia Freshman Athlete of the Year, Rensselaer Leadership Award, Hoby Leadership Award

SOFTWARE, SKILLS, AND OTHER

Software/OS: Windows, MacOS, Linux, Git (Perforce, JIRA), Adobe Creative Cloud, Microsoft Office, Excel, Unity Engine, Unreal Engine, MySQL, Maya, Blender, Pytorch, Substance Painter, OpenGL, Vulkan, CMake

Programming Languages: C++, C, C#, Python, Java, JavaScript, SQL, CSS, HTML, Assembly Languages, HLSL, GLSL

Skills and Knowledge: Data Structures, Algorithms, Machine Learning, Binary Exploitation, Artificial Intelligence, Databases, Computer Graphics, Computational Geometry, Game Development, Calculus, Multi-Variable Calculus, Linear Algebra, Binary