# Rafael Padilla Perez

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## EDUCATION

**San Jose State University** — San Jose, CA
*Bachelor of Science - Software Engineering; GPA: 3.54; Cum Laude.* — *July 2016 - June 2020*

## SKILLS

- **Languages**:   Python, C/C++, C#, GLSL, HLSL, MEL, HTML/CSS/JS.
- **Frameworks**:   Qt, PySide, USD, OpenGL, CMake.
- **Tools**:   Maya, Blender, Houdini, Renderman, Unity, Unreal, Git/Github, Zbrush, Substance, Perforce, Jira.

## EXPERIENCE

**SJSU Research Foundation** — San Jose, CA
*Research Lead* — *Feb. 2022 - May 2024*

- **Responsibilities**: Devised a VR framework for STEM College-Level Education.
- **Results**: Created two laboratory environments, now used by **200+ students** per semester. Observed an **82.3%** increase in learning and retention during research trials. Co-authored manuscript, pending publication on SoftwareX Journal.
- **Languages & tools**: Unity Engine, C#, Meta Quest II.

**Playroom** — Palo Alto, CA
*Game Developer Intern* — *Jun. 2023 - Aug. 2023*

- **Responsibilities**: Produced 3D web-based, multiplayer video game.
- **Results**: Assembled the game "RollOut" within a 2-month deadline. Reached **5000+** players since launch. Created a Blender tool with Python for level design, reducing iteration time by **90%**.
- **Languages & Tools**: Python, Blender, HTML/CSS/JS, React.js

## PROJECTS

- **Prim**: Maya/Blender Plug-In, 3D Primitive Management
  - Engineered plug-in that enables artists to name and save scene meshes as primitives, curate 3D primitive libraries, instance them in new projects, and export them using a custom .prim file format for sharing among users.
  - **Languages & Tools**: QT, PySide6, Maya, MEL, Blender, Python.
- **Taka Taka**: Steam-Released Rhythm Video Game
  - Led team of 8 developers. Reached **1500+ wishlists** and **300+ sales**. Fabricated "TakaMaker," a Unity-based tool that shortened the beatmap creation process by **60%**.
  - **Languages & Tools**: C#, HLSL, Unity Shader Graph.
- **Jelly Engine**: 3D Game Engine for Soft Body Physics
  - Architected a game engine as graduation thesis. Optimized soft body solver, reaching **120+ FPS** with meshes **up to 1000 triangles**. Implemented custom subsurface scattering GLSL shader following the Oren-Nayar lighting model.
  - **Languages & Tools**: C/C++, CMake, OpenGL, GLSL.

## LEADERSHIP EXPERIENCE

**SJSU ACM SIGGRAPH Student Chapter** — San Jose, CA
*President* — *Nov. 2023 - May 2024*

- Re-founded and re-recognized the university's dormant SIGGRAPH student chapter, recruiting and managing a **6-member cabinet**. Organized events, workshops, and activities, increasing membership **from 0 to 250+**.
- Secured over **$1500** in club funding to sponsor 10 club members for the Game Developers Conference (GDC). Established partnerships with industry leaders like Riot Games, and Pixar.

**Game Development Club at SJSU** — San Jose, CA
*President* — *Jul. 2022 - Aug. 2023*

- Led 14-member cabinet to oversee a **1,000+ member club** with a semester-long game production program. Mentored 8 game teams, with 2 shipping on Steam. Organized Global Game Jam twice for San Jose/Bay Area region.
- Managed recruitment, outreach, workshops, tutorials, and events. Helped sponsor 18 GDC club member attendees by raising over **$2000** in funding.