Flavio **Franzin**

Software Engineer

Address Santa Maria, Rio Grande Do Sul, Brazil   **LinkedIn** linkedin.com/in/ffranzin/
E-mail ffranzin@inf.ufsm.br

I have +5 years of experience developing a 3D simulator for the Brazilian army (SIS-ASTROS Project). I've had three positions and was involved in creating several essential parts of the simulator, ranging from game features to an advanced engine for visualizing large-scale virtual landscapes. I'm also familiar with the artistic process, and I analyze 3D assets to balance performance and visuals. I'm an analytical thinker and an effective team worker with an open mind. I'm looking for game development opportunities to grow professionally. My main interests are game, graphics, and tools programming, in addition to applications that have optimizations challenges.

Experience

08/2020 - Now

Software Engineer
SIS-ASTROS, Santa Maria, RS

- Development and maintenance of game and graphics features;
- Involved in major decisions related to the development of new features;
- Tutoring of less experienced team members;
- Technical analysis of 3d assets to provide detailed feedback to the artistic team for optimizations and improvements;
- Identified and solved bottlenecks in game features, some of which were improved by +90% and the overall game's performance by +30%.

Key Achievement: I encouraged and guided artists and programmers in optimizing 3D assets and game scenarios to create real-time cutscenes for military training. The previous solution had videos rendered offline with over-detailed assets, and minor changes required days of pre-processing. Changes are now far manageable and less time-consuming.

02/2017 - 07/2020

Game Developer
SIS-ASTROS, Santa Maria, RS

- Game and graphics programming using Unity engine;
- Compute shader programming for mass data processing;
- A member of the engine development team for large terrain (over 500x500 km) and mass vector data visualization;
- Development of a low-storage architecture for long-lasting changes of terrain and grass according to vehicles' movement;
- Development of a data structure to minimize the computing cost of rendering vector data on terrain (e.g., rivers, roads, and vegetation zones). The upgrade sped up terrain rendering by +80%.

Key achievement: Sole developer of a vegetation framework for real-time placement and rendering of thousands of trees and small plants. It is mostly GPU-based and involves terrain and environmental aspects such as rivers, roads, and precipitation.

04/2016 - 01/2017   ### Technical Artist

SIS-ASTROS, Santa Maria, RS

- Programming dynamic behaviors for assets, such as an inverse kinematics for the mechanical arm;
- Modeling 3D low-poly military vehicles from the ASTROS battery using Blender;
- Programming custom shaders in Unity. For example, a dynamic material that dirties vehicles with dust and mud according to soil and climate types;
- I also worked with other software such as Substance Painter, Substance Designer, Gimp, Illustrator, and SpeedTree.

Education

03/2018 - 08/2020   ### MSc in Computer Graphics

Universidade Federal De Santa Maria - Brazil

- Developed a real-time GPU-based vegetation framework;
- Acquired in-depth knowledge of real-time rendering techniques;
- Published five papers;
- Taught Computer Graphics and Advanced Computer Graphics subjects;
- Wrote Shader and Compute Shader materials for some Advanced Computer Graphics topics.

03/2013 - 01/2018   ### BSc in Computer Science

Universidade Federal De Santa Maria - Brazil

- Acquired knowledge in various IT areas such as programming languages, data structures, databases, computer graphics, code analysis, and math;
- Published two papers;
- Participated in an academic project to develop a collaborative platform for biologists to catalog animals;
- +2 years as a member of the Tutorial Education Program (an academic group of 15 high-potential students) developing research, community activities, and teaching new technologies for IT students.

Technical Skills

Unity

C#

GPGPU and Graphics Programming

Java, Python, C, and C++

Git

Performance tuning

Blender (modeling)

Soft Skills

Proactive

Critical thinking

Problem-solving

Teamwork

Time management

Languages

Portuguese

Native

English

Professional

Spanish

Intermediate