Soumitra Goswami

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somgoswami.com
https://github.com/som1990

Technical Artist

Education

Texas A&M — College Station, TX
M.S. Visualization — 2014-2020

Savannah College of Art and Design (SCAD) — Savannah, GA
B.F.A. in Interactive Design and Game Development — 2009-2013

Experience

Playground Games (Microsoft XBX Game Studios) — Leamington Spa, GB
Senior Technical Artist I — Oct 2022 - Present
Technical Artist II — Dec 2021 - Sept 2022
Games: Fable

Electronic Arts Sports — Orlando, FL
Technical Artist I — Feb 2020 - Nov 2021
Associate Tech Artist Intern — Jun 2019 - Aug 2019
Games: EA Sports PGA Tour

SideFX Software — Santa Monica, CA
Houdini Tech Art Intern — Feb 2017 - Oct 2017
Projects: Procedural Western Town

Softwares/Skills

- SideFX Houdini (8 yrs)
- Autodesk Maya (5 yrs)
- Pixar Renderman (4 yrs)
- Unreal Engine 4 (2 yrs)
- Github/Perforce (3 yrs)
- Adobe Photoshop (7 yrs)
- C++ (7 yrs)
- Vector Expression Language(VEX) (6 yrs)
- Python(4 yrs)

Leadership/Voluntary Roles

Participated in student volunteer positions at Siggraph.
Fulfilled many leadership roles in the admissions and international offices of SCAD
Presented at several leadership conferences at SCAD.

Selected Projects

Fable (Playground Games/ Microsoft XBX Studios) — Leamington Spa, GB
Dec 2021 - Present

Responsible for owning the Custom Procedural World Generation Pipeline

- Planning. building and reviewing features with steakholders.
- Managing regular releases, and setting up documentation & training for end-users.
- Coordinating with Artists and Engineers in improving the pipeline, and propogating changes on the engine side.

EA Sports PGA Tour (EA Sports) — Orlando, FL
Jun 2019 - Nov 2021

Procedural tools, shader development and artist support

- Responsible for creating Houdini -> Maya tools to improve artist workflows.
- Tools saved artists over 85% of time.
- Provided written documentation and support for tools.
- Responsible for writing HLSL shaders for certain tasks.

Interactive Water Surfaces using the EWave Algorithm (Masters Thesis Project) — College Station, TX
Jan 2019 - Nov 2019

A lightning fast heighmap based algorithm to generate object-water wave interaction.

- Winner of Epic Mega Grant 2020
- Realtime GPU implementation within the Unreal Engine 4 as a plugin.
- Takes less than 1ms per frame in rendertime.

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Additional Projects

Sinking of the Edmund Fitzgerald (Group Research Project) — College Station, TX
Software and pipeline tool development for in-house render engine called Gilligan. — June 2018 - Dec 2018
- Responsible for creating Maya/Houdini->Giligan pipeline tools in Python.
- Writing custom physically based shaders (C++) for use in the Gilligan Engine.

Procedural Western Town (SideFX Game Intern Project) — Santa Monica, CA
Procedural content generation and Unreal development. — May 2017 - Aug 2017
- Responsible for setting up Houdini->UE4 Project pipeline using Houdini Engine.
- Responsible for generating the environmental assets/ terrain and writing tools for populating assets inside of Unreal Engine 4.

Custom Volume Renderer (C++) - In Progress — College Station, TX
Wrote an efficient CPU Ray Marching renderer of discrete & gridded volumes. — Sept 2018 - Present
- Supports 10 implicit shapes.
- Supports lights and deep shadow maps.
- Optimized with AABB.

Custom 2D Fluid Simulator (C++, QT5) — College Station, TX
Wrote a realtime CPU fluid and SPH particle simulator — Feb 2018 -May 2018
- Fluid simulator supports multiple advection schemes (Semi-Lagrangian, Modified MacCormack, BFECC).
- Supports incompressability, vorticity confinement and obstruction maps.
- SPH particle simulator supports occupancy volume grids.

Custom Physically Based Renderer (C++) — College Station, TX
Wrote a Physically Based Renderer supporting spectral wavelengths. — Sep 2017 - Dec 2017
- Uses Cook-Torrence model to support 5 physical materials.
- Models a physically accurate sunlight as a light source.

Custom Houdini Development Kit (HDK, C++) plugins — College Station, TX
Wrote custom physically based simulation plugins for Houdini 14. — Sep 2017 - Dec 2015
- Wrote custom rigid body dynamics and particle code as a study exercise.
- Wrote a custom Boids simulation to generate an artwork in Houdini.

Frankenkite (Disney Summer Group Project) — College Station, TX
FX, Rendering/Compositing lead — May 2015 - Aug 2015
- Responsible for creating effects and methodology for other artists to use.
- Responsible for streamlining render pipeline and generating nuke scripts.

Custom Ray Tracer (C++) — College Station, TX
CPU based raytracer study — Jan 2015 - May 2015
- Supports multiple types of light (Point, Directional, SpotLight) and shadows.
- Supports import of mesh as obj, and support of texture & environment maps.
- Supports reflection, refraction and Monte-Carlo glossiness.
- Supports anti-aliasing, depth of field and motion blur.

Honors/Awards

- Epic Mega Grant 2020, winner for Masters Thesis Project
- Awarded Cum Laude for academic excellence in College.
- Produced and designed the board game 'Ariadne', which won the board game of the year in the annual Game Developers Exchange (GDX), 2012.