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in aritra-bhakat

# Aritra Bhakat

*Computer Science Master student looking for a Master's Thesis on the topic of graphics, rendering, GPU programming or simulation. For more about me, my skills and projects, see my portfolio:*

[arrebarritra.github.io](https://arrebarritra.github.io)

## Education

**Master's Programme in Computer Science, Visualisation and Interactive Graphics Track**, KTH Royal Institute of Technology, Stockholm. **Aug 2022–Present**

**Exchange Studies, Computer Science**, University of Melbourne, Melbourne. **Jul 2022–Nov 2022**  
81.5% WAM

**Degree Programme in Engineering Physics**, KTH Royal Institute of Technology, Stockholm. **Aug 2019–Present**  
GPA 4.761/5

**Natural Science Programme**, Kungsholmens Gymnasium, International Section, Stockholm. **Aug 2016–June 2019**

## Work experience

**Summer Research Project, NORDITA.** **Summer 2020**  
Analysed and visualised time-dependent volumetric data from an asteroid erosion simulation. My visualisations were part of the resulting published paper.

## Skills

- C++
- GLSL + HLSL compute shaders
- Python (matplotlib, numpy, scipy etc.)
- OpenGL
- Unity + C# scripting
- OpenMP + MPI

## Projects

**arrend.** **Summer 2023–Present**  
An OpenGL renderer which includes features such as deferred rendering, post-processing effects (ex. SSR, SSAO, bloom), model loading, scene graph and GUI editor.

**GPU Soft Body Simulation.** **May 2023**  
A soft body simulator in Unity. The simulation is done on the GPU using compute shaders and XPBD is used for integration and solving constraints.

**Volumetric renderer.** **Oct 2023–Present**  
An OpenGL volume renderer, which uses view aligned slices.

**Rolling Reactions VR.** **Sep 2023–Oct 2023**  
Group project in which we created a VR experience where the player performs experiments in a lab while moving in a virtual wheelchair. My main role was programming wheelchair physics and interaction, and integrating our fluid simulations into the project.

## Languages

Swedish, English, Bengali

## Hobbies

**Cricket:** I have played for Sweden U19s, played overseas for Brunswick CC in Australia and currently playing for DIF CF in the Allsvenskan. I also coach junior teams in my club.

**Cooking:** I love cooking, and also baking!