

# PARITOSH SHARMA

GRAD STUDENT

Université Grenoble Alpes - ENSIMAG

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## Research

### Laboratoire d'Informatique de Grenoble - TEAM GETALP

Grenoble, France

ADVISOR: DR. DIDIER SCHWAB

Feb. 2020 - Sept. 2020

- Thesis: "Interaction methods for eye tracking in games for cognitively disabled people"

## Projects

### Personal

Grenoble, France

#### DIFFERENTIABLE RENDERER

Sept. 2020

- Draws 3D shapes differentially using Tensorflow
- Support for computing derivatives through geometry, lighting, and other parameters

### KDE

Grenoble, France

#### QT3D BACKEND FOR KSTARS

May 2020 - Jul. 2020

- 3D backend for planetarium software KStars
- Support for Astronomical projections

### Personal

Gurgaon, India

#### SIMULATOR FOR MASS SPRING SYSTEMS

Dec. 2018

- Uses popular algorithms like Implicit/Explicit Euler, Verlet Integration, etc.

## Education

### Université Grenoble Alpes - ENSIMAG

Grenoble, France

#### MS INFORMATICS

2019 - 2021

- Specialization in Graphics, Vision and Robotics
- M1 Thesis in interaction methods for eye tracking

### SRM University

Ghaziabad, India

#### B.TECH. CSE

2015 - 2019

- Thesis in Finger Tracking
- Advisor: Mrs. Priyanka Sharma

## Professional Experience

Nov. 2018 - Apr. 2019 **Intern**, Gesture Research

May 2018 - Aug. 2018 **Student Developer**, Godot - Google Summer of Code

Dec. 2017 - Jan. 2018 **Intern**, Cusmat Technologies

## Skills

### COMPUTER GRAPHICS

Path tracing, importance sampling, BRDF and microfacet theory, mesh simplification algorithms, normal mapping, voxelization, differentiable rendering and noise functions(worley, perlin).

## MATHEMATICS

Linear algebra, optimization (gradient descent and backpropagation), sampling and Monte Carlo estimators.

## COMPUTER SCIENCE

C++, OpenGL, GLSL, Unity3D, multi-threading, CUDA, Python, Matlab/Octave, Tensorflow, Java, HTML, CSS, JS (jQuery and Phaser.js), Git, Linux, Qt, CMake, automatic differentiation, scalable algorithms, Inkscape, GIMP and OpenShot.

## LANGUAGE

English and Hindi (native), French (Beginner)

## Additional Information

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## INVITED TALKS

Summer 2020. *Qt3D backend for KStars*. Invited talk: KDE Academy 2020

## HONORS

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|------|---|----------|
| 2020 | <b>Campus France</b> , Charpak BCS Master's Scholarship                                 |          |
| 2011 | <b>17th UCMAS Abacus and Mental Arithmetic International Competiton</b> , 1st Runner Up | Malaysia |
| 2014 | <b>Technothon</b> , IIT Guwahati, All India Rank 44                                     | India    |

## OTHER WORK

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|------|--|--------|
| 2018 | <b>Robinhood Army</b> , Volunteering and teaching at local slums       | India  |
| 2020 | <b>Association de la fondation étudiante pour la ville</b> , Volunteer | France |
| 2020 | <b>INTEGRE</b> , Organizer for Integration Events                      | France |

## OTHER INTERESTS

Hiking, Climbing, Soccer, Chess, Shogi, History of digital and board games