# PARITOSH SHARMA

GRAD STUDENT

*Université Grenoble Alpes - ENSIMAG*

📱 +33 751044970 | ✉ contact@paritosh-sharma.com | 🏠 www.paritosh-sharma.com | 🔳 Paritosh97 | 🔵 paritosh.sharma79

## 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 RENDERING                                          *Sept. 2020*
- Personal work and progresses on Differentiable Rendering
- Comparison for engines utilizing rasterization, ray marching, point-based techniques and single shaded surfaces

**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*
- WebGL demonstration for Mass Spring Systems using 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

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|---|---|
| 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

## Invited Talks

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

## Honors

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

## Other Work

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

## Other Interests

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