

Gaurav Rai

Ph.D. Research Scholar, IIIT-Delhi

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EDUCATION

Indraprastha Institute of Information Technology Delhi (IIIT-Delhi)

Aug 2020 - Present

PhD Research Scholar, Computer Science and Engineering

CGPA: 8.24/10.0

Areas of Interest: Computer Graphics, Sketch Animation, Motion Retargetting and Image Animation

Advisor: [Dr. Ojaswa Sharma](#)

Gurukula Kangri Vishwavidyalaya, Haridwar, Uttarakhand

2016 - 2020

BTech Computer Science and Engineering

CGPA: 8.54/10.0

PUBLICATIONS

ACCEPTED

SKETCHANIM: Real-time sketch animation transfer from videos

Gaurav Rai, Shreyas Gupta, and Ojaswa Sharma

2024

[ACM SIGGRAPH / EUROGRAPHICS SYMPOSIUM ON COMPUTER ANIMATION \(SCA\)](#)

Journal

UNDER REVIEW

LiveImage: Motion condition guided diffusion model for video motion transfer

Gaurav Rai, Ojaswa Sharma

2024

[Computer Graphics Forum \(CGF\)](#)

Journal

Animate static sketch illustrations using text-to-video prior

Gaurav Rai, Ojaswa Sharma

2024

[AAAI Conference on Artificial Intelligence \(AAAI\)](#)

*Core A**

PROJECTS

SketchGPT | *Pytorch, libigl, OpenCV, Scikit-learn*

Feb 2024 – Present

- Animate static sketch illustrations using text description
- Given a static sketch and text prompt describing the motion, our method animates the sketch as per the input text description. The various valuable applications are children's ebooks, entertainment videos, video editing, etc.

LiveImage | *Pytorch, OpenCV, Scikit-learn*

Aug 2022 – Feb 2024

- Motion condition guided diffusion model for video motion transfer
- An approach for image animation that has exciting applications in various visual tasks such as video editing and animation. It takes an image and a driving video as input and generates the animation video of the image based on the driving video's motion.

SketchAnim | *Pytorch, Pytorch3d, open3d, libigl, OpenCV, Scikit-learn*

Aug 2021 – Dec 2023

- Real-time sketch animation transfer from videos
- Allows novice users to bring static drawings to life by applying deformation-based animation effects extracted from video examples.

EXPERIENCE

Teaching Assistant, IIIT-Delhi

Aug 2020 - May 2024

Courses: Computer Graphics [CSE333/533] (Monsoon 23), Scientific Computing [MTH373/573] (Monsoon 22), Linear Algebra [MTH100] (Winter 21)

Key Responsibilities

- Prepared and delivered lectures, tutorials, and other teaching materials.
- Graded assignments and provided constructive feedback to students.
- Conducted tutorials and discussion sessions, fostering active learning.
- Mentored students on research projects related to the course topics.

Internship: RWX Technology Pvt. Ltd.

May 2019-July 2019

ACHIEVEMENTS

- Presented research posters at the Research Innovation and Incubation Showcase (RIISE) organized by IIIT-Delhi (2024).
- Reviewer at [IEEE ICME 2024](#).
- Teaching Assistance at [ACM Summer School on Shape Modelling](#) Topic: Introduction to libigl at IIIT Delhi (2022).
- Presented “3D-Skeletons: A state-of-the-art report,” at Graphics seminar series, IIIT Delhi (2022).
- Qualified Graduate Aptitude Test in Engineering (GATE) in Computer Science and Engineering (2020).

SKILLS

Programming Languages: C/C++, Python

Tools: OpenGL, Qt, Libigl, CGAL, Pytorch, OpenCV, Scikit-learn

Technical Subjects: Computer Graphics, Computer Vision, Image Processing, and GPU Computing