

PARITOSH SHARMA

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Education

Université Paris-Saclay - CNRS

Orsay, France

PHD INFORMATICS

Oct. 2021 - Dec. 2024

- Thesis on the synthesis of Sign Language from AZee expressions
- Director: Dr. Michael Filhol

BREAK

Jul. 2021 - Sept. 2021

- Traveled to India, Italy and Spain
- Volunteered in Bio Construction in La Rinconada, Spain
- Prepared for starting the PhD Degree and moved to Paris

Université Grenoble Alpes - ENSIMAG

Grenoble, France

MS INFORMATICS

Sept. 2019 - Jun. 2021

- Specialization in Graphics, Vision and Robotics
- M1 Thesis in interaction methods for eye tracking under Dr. Didier Schwab
- M2 Thesis in synthesis of sign language under Dr. Michael Filhol

BREAK

Jul. 2019 - Sept. 2019

- Spent time preparing for the MS program and engaging in personal projects
- Moved to Grenoble from New Delhi

SRM University

Ghaziabad, India

B.TECH. COMPUTER SCIENCE AND ENGG.

Jul. 2015 - Jun. 2019

- Engineering degree with a focus on Computer Science
- Additional courses in Mathematics, Electronics and Electrical Engg.
- Final year project in Finger Tracking with Mrs. Priyanka Sharma

Professional Experience

INRIA

Jan. 2025 - present

POST DOCTORATE RESEARCHER

Valbonne, France

- Deep generative approaches for personalized training in virtual reality

Gesture Research

Nov. 2018 - Apr. 2019

INTERN

Gurgaon, India

- Unity development for various XR projects for Microsoft HoloLens, Windows MxR, Gear VR, etc.
- Worked on realtime Finger Tracking techniques and its applications for XR

Godot - Google Summer of Code

May 2018 - Aug. 2018

STUDENT DEVELOPER

Remote

- Created a GDNative plugin of VrApi to render scenes on Gear VR devices
- Google Daydream support for Godot

Cusmat Technologies

Dec. 2017 - Jan. 2018

INTERN

Hyderabad, India

- VR Sports game for Oculus Rift

Teaching

Polytech Paris Sud	Introduction to Computer Graphics , Teaching Assistant	2023 - Present
IUT d'Orsay	Introduction à l'Intelligence Artificielle(French) , Teaching Assistant	Spring 2023
Polytech Paris Sud	Interaction Humain-Machine(French) , Teaching Assistant	2023 - Present
Polytech Paris Sud	Introduction aux bases de données(French) , Teaching Assistant	2022 - Present
IUT d'Orsay	Informatique Graphique pour la Science des Données(French) , Teaching Assistant	2022 - Present
IUT d'Orsay	Introduction à la Programmation orientée Objet(French) , Teaching Assistant	Fall 2021

Skills

COMPUTER GRAPHICS AND ROBOTICS

Armature animation, Kinematics, Physics-based animation(Rigid and Soft body simulation), Motion Generation(Diffusion and Transformers), Path tracing, noise functions, BRDF and micro-facet theory.

MATHEMATICS AND MACHINE LEARNING

Multi-variable Calculus, Euler Integration, Auto-encoders, Diffusion models, Optimization(gradient descent and back-propagation, etc.), sampling and Monte Carlo estimators.

COMPUTER SCIENCE

C++, multi-threading, Python, PyTorch, OpenGL, GLSL, Blender, Unity3D, Qt3D, Godot, Octave, Java, HTML, CSS, JS(phasers.js), Git, Linux, Qt, CMake, Latex, Inkscape, GIMP and iMovie.

LANGUAGES

English(professional), Hindi(native), French(Professional), French Sign Language(A1.3)

Publications

PUBLISHED

Paritosh Sharma and Michael Filhol. "Multi-Track Bottom-Up Synthesis from Non-Flattened AZee Scores". In: *7th Workshop on Sign Language Translation and Avatar Technology: The Junction of the Visual & the Textual Challenges and Perspectives (SLTAT 7)*. Marseille, France, June 2022. URL: <https://hal.archives-ouvertes.fr/hal-03721720>

Paritosh Sharma. "A Layered Approach to Constrain Signing Avatars". In: *VISIGRAPP_DC 2023*. Scitevents. Lisbon, Portugal, Feb. 2023. URL: <https://hal.science/hal-04143663>

Paritosh Sharma and Michael Filhol. "Extending Morphs in AZee Using Pose Space Deformations". In: *2023 IEEE International Conference on Acoustics, Speech, and Signal Processing Workshops (ICASSPW)*. 2023, pp. 1–5. doi: [10.1109/ICASSPW59220.2023.10193413](https://doi.org/10.1109/ICASSPW59220.2023.10193413)

Paritosh Sharma and Michael Filhol. "Intermediate Block Generation for Multi-Track Sign Language Synthesis". In: *Proceedings of the ACM SIGGRAPH/Eurographics Symposium on Computer Animation*. SCA '23. Los Angeles, CA, USA: Association for Computing Machinery, 2023. ISBN: 9798400702686. doi: [10.1145/3606037.3606837](https://doi.org/10.1145/3606037.3606837). URL: <https://doi.org/10.1145/3606037.3606837>

Paritosh Sharma, Camille Challant, and Michael Filhol. "Facial Expressions for Sign Language Synthesis using FACSHuman and AZee". In: *SIGNLANG*. 2024. URL: <https://api.semanticscholar.org/CorpusID:269950872>

Paritosh Sharma and Michael Filhol. "Sign Language Synthesis using Pose Priors". In: *Proceedings of the 9th International Conference on Movement and Computing*. MOCO '24. Utrecht, Netherlands: Association for Computing Machinery, 2024. ISBN: 9798400709944. doi: [10.1145/3658852.3659080](https://doi.org/10.1145/3658852.3659080). URL: <https://doi.org/10.1145/3658852.3659080>

Projects

- Global Game Jame 2023 - Rooty Defenders
- Global Game Jame 2024 - Crazy Stupid Horse
- Ludum Dare 55 - Swords Dance
- WebGL demonstration for Mass Spring Systems using popular algorithms like Euler methods, Verlet Integration, etc.
- 3D Underwater scene in PyOpenGL and GLSL.
- Galactic Cricket - A VR cricket game for Meta headsets
- Oh Camel! - A MinCaml compiler

Additional Information

TALKS

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| 2023 | 3MT - 3 Minute Thesis , Sign Language Synthesis in 3 minutes | Orsay, France |
| 2020 | KDE Akademy 2020 , Qt3D backend for KStars | Online |

SUPERVISION

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| 2024 | Samira Bhattacharya , Intern | Orsay, France |
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PEER REVIEW

Reviewer and Program Committee member for 8th Workshop on Sign Language Translation and Avatar Technology: The Junction of the Visual and the Textual Challenges and Perspectives (SLTAT 8) - IEEE ICASSP 2023

Reviewer for 9th International Conference on Movement and Computing - ACM MOCO'24

HONORS

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| 2023 | Doctoral Consortium - VISIGRAPP 2023 , Best PhD project | Portugal |
| 2020 | EIT Health - Grenoble i-Days 2020 , Bronze Medal | France |
| 2020 | Campus France , Charpak BCS Master's Scholarship | |
| 2011 | 17th UCMAS Abacus and Mental Arithmetic International Competiton , 1st Runner Up | Malaysia |
| 2014 | Technothon , IIT Guwahati, All India Rank 44 | India |

OTHER WORK

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| Present | RéPAR , Volunteer | Paris, France |
| 2020 | Association de la fondation étudiante pour la ville , Volunteer | Grenoble, France |
| 2020 | INTEGRE , Vice President - Events | Grenoble, France |
| 2018 | Robinhood Army , Volunteering and teaching at local slums | India |

OTHER INTERESTS

Cycling, Climbing, Hiking, Cooking, Chess