PARITOSH SHARMA

INRIA

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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 Sophia Antipolis	**Creating virtual worlds (Blender and Unity)**, Teaching Assistant	*Spring 2025*
Polytech Paris Sud	**Introduction to Computer Graphics**, Teaching Assistant	*2023 - 2024*
IUT d'Orsay	**Introduction à l'Intelligence Artificielle(French)**, Teaching Assistant	*Spring 2023*
Polytech Paris Sud	**Interaction Humain-Machine(French)**, Teaching Assistant	*2023 - 2024*
Polytech Paris Sud	**Introduction aux bases de données(French)**, Teaching Assistant	*Spring 2022*
IUT d'Orsay	**Informatique Graphique pour la Science des Données(French)**, Teaching Assistant	*2022 - 2024*
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(phaser.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`

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`. 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. 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

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

SUPERVISION

2024	**Samira Bhattacharya**, Intern	*Orsay, France*

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

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	**Technothlon, IIT Guwahati**, All India Rank 44	*India*

OTHER WORK

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