



Mohit Mendiratta

Research Scientist

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🏠 <https://scholar.google.com/citations?user=Y3Bc8isAAAAJ&hl=en>

👤 PROFILE

Research scientist specialising in 3D human modelling, generative AI and multimodal vision-language systems. Most recently, Head of AI Research at QOVES, where I led a team of researchers and interns that built a complete face-editing system in seven months, spanning precise geometric edits, appearance editing, latent control and outpainting. Doctoral research at the Max Planck Institute for Informatics (Dr.-Ing., defence pending), with publications at SIGGRAPH Asia, ECCV, CVPR and 3DV. Experienced in real-time Gaussian head avatars, morphable face models and diffusion-based editing, with a track record of taking research into production.

🎓 EDUCATION

09/2021 – 03/2026 Saarbrücken, Germany	Doctor of Engineering (Dr.-Ing.), Computer Science Max-Planck-Institut für Informatik Computer Vision and Graphics, focusing on 3D human and facial modelling, generative AI, and multimodal reasoning. Advisor Prof. Dr Christian Theobalt.
10/2018 – 08/2021 Saarbrücken, Germany	Master of Science in Visual Computing Universität des Saarlandes
08/2013 – 06/2017 Bhubaneswar, India	Bachelor of Technology in Electrical and Electronics Engineering Kalinga Institute of Industrial Technology

👜 PROFESSIONAL EXPERIENCE

04/2026 – 11/2026 Saarbrücken, Germany	Head of AI Research Qoves  <i>Led AI research for QOVES's facial analysis and image editing products.</i> <ul style="list-style-type: none">• Built a complete face-editing system in 7 months, spanning precise geometric edits, appearance editing, latent control and outpainting.• Led a team of researchers and interns.
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- Worked with the psychology team to study facial biases in LLMs.

09/2021 – 03/2026
Saarbrücken,
Germany

Doctoral Researcher

Max-Planck-Institut für Informatik

- Worked on real-time 3D head avatars using generative models and Gaussian splatting. Built systems for text-based editing of 3D head avatars, audio-driven facial animation, and avatar generation controlled by identity and expression.
- Worked on diffusion models and vision-language models for understanding and editing 3D human faces. Designed and trained models on large datasets and built real-time pipelines.

These works led to publications at SIGGRAPH, SIGGRAPH Asia, CVPR, and 3DV.

08/2019 – 08/2021
Saarbrücken,
Germany

Research Assistant

Max-Planck-Institut für Informatik

Developed an egocentric-driven videoconferencing system for XR/AR devices, enabling hands-free video communication on smart glasses and mixed-reality headsets. The system leverages a low-cost wearable egocentric camera module designed for seamless integration into smart eyewear, providing a natural first-person communication experience. This work resulted in a paper published in *ACM Transactions on Graphics* (TOG) and presented at SIGGRAPH Asia 2020.

01/2019 – 10/2019
Saarbrücken,
Germany

Research Assistant

Fraunhofer IZFP

Developed a no-reference image quality assessment method and a multi-functional ROI analysis tool, along with algorithms for generating large-scale artificial images using heat equation-based modelling.

07/2017 – 08/2018
Bangalore, India

Associate Software Engineer

Zentron Labs Private Limited

Developed image processing algorithms and vision system design for Fruitron — India's first automated optical sorting machine using visible, infrared, and ultraviolet imaging with machine learning for high-speed colour, size, weight, and defect sorting.

01/2017 – 06/2017
Bangalore, India

Intern

Zentron Labs Private Limited

Designed and implemented the fruit tracking, ejection, and vision calibration system for Fruitron, India's first automated optical sorting machine.



SKILLS

Programming:

Python, C++, CUDA, Bash

Deep Learning:

PyTorch, Lightning, TensorRT

Computer Vision:

OpenCV, COLMAP, Open3D

3D Graphics:

Blender, PyTorch3D, OpenGL, Gaussian Splatting

Vision & ML:

Diffusion Models, NeRF, 3DMM, Face Reconstruction, Multiview Geometry

Systems:

Linux, Docker, Slurm, Multi-GPU Training



AWARDS

03/2020

Saarland Scholarship for International Students

Germany Scholarship (Deutschlandstipendium)

For outstanding academic performance.

EmoteGPT: 3D Human Facial Expressions from Natural Language Descriptions **European Conference on Computer Vision - ECCV 2026**Haoran Wang, **Mohit Mendiratta**, Christian Theobalt, Adam Kortylewski*Presents a vision-language model that enables semantic reasoning and dialogue about 3D human facial expressions.***Audio-Driven Universal Gaussian Head Avatars** **ACM SIGGRAPH Asia Conference Proceedings (SIGGRAPH Asia 2025)**Kartik Teotia, Helge Rhodin, **Mohit Mendiratta**, H. Kim, Marc Habermann, Christian Theobalt*A real-time Gaussian splatting framework for generating high-fidelity 3D head avatars driven by speech audio.***GRMM: Real-Time High-Fidelity Gaussian Morphable Head Model with Learned Residuals** **International Conference on 3D Vision 2026 (3DV)****Mohit Mendiratta**, Mayur Deshmukh, Kartik Teotia, Vladislav Golyanik, Adam Kortylewski, Christian Theobalt*Introduces a Gaussian morphable head model with learned residuals for expressive, real-time photorealistic face rendering.***Zero-Shot Video Semantic Segmentation based on Pre-Trained Diffusion Models** **The IEEE/CVF Conference on Computer Vision and Pattern Recognition 2025**Qian Wang, Abdelrahman Eldesokey, **Mohit Mendiratta**, Fangneng Zhan, Adam Kortylewski, Christian Theobalt, Peter Wonka*Proposes a zero-shot video segmentation method leveraging pre-trained diffusion models without task-specific training.***TEDRA: Text-based Editing of Dynamic and Photoreal Actors** **International Conference on 3D Vision 2024**Basavaraj Sunagad, Heming Zhu*, **Mohit Mendiratta***, Adam Kortylewski, Christian Theobalt, Marc Habermann (* equal contribution)*A text-driven framework for editing dynamic 3D human performances using diffusion and multimodal guidance.***AvatarStudio: Text-driven Editing of 3D Dynamic Human Head Avatars** **ACM Transactions on Graphics (SIGGRAPH Asia 2023)****Mohit Mendiratta**, Xingang Pan*, Mohamed Elgharib*, Kartik Teotia, Mallikarjun B R, Ayush Tewari, Vladislav Golyanik, Adam Kortylewski and Christian Theobalt (* equal contribution)*Introduces a system for photorealistic, text-based editing of dynamic 3D head avatars using generative models.***Egocentric Videoconferencing** **ACM Transactions on Graphics (SIGGRAPH Asia 2020)**M. Elgharib*, **M. Mendiratta***, J. Thies, M. Nießner, H-P. Seidel, A. Tewari, V. Golyanik and C. Theobalt (* equal contribution)*Presents an egocentric video conferencing system enabling hands-free video calls using wearable cameras for smart glasses.***Beauty is in the AI of the beholder: MLLMs systematically overrate facial attractiveness****arXiv 2026**Santiago Grandas, Juan Sebastian Cely-Acosta, **Mohit Mendiratta**, Shafee Hassan, Macken Murphy*A pre-registered study comparing 2,513 human raters with four commercial MLLMs (Claude, Gemini, GPT and Grok), showing that the models track human rank-ordering of facial attractiveness but systematically rate faces higher and within a narrower range.*