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Hiba Dahmani

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Third-year Ph.D. candidate at Huawei Technologies France, researching scalable 3D scene reconstruction and generation using diffusion models and neural 3D representations.
Currently on a mission to turn coffee into papers and eventually become a Research Scientist.

Education

PhD in Computer Vision, *Huawei Paris Research Center & COSYS, Gustave Eiffel University* 2023 — Now

Supervisors: Nathan Piasco (Huawei), Roland Bremond (COSYS, Gustave Eiffel University), Laurent Caraffa (LASTIG, IGN-ENSG, Gustave Eiffel University), Jean-Philippe Tarel (COSYS, Gustave Eiffel University)

Research Topic: This thesis focuses on scalable 3D scene reconstruction and generation . It investigates neural 3D representations and generative models for building large-scale environments with improved geometric accuracy and rendering efficiency.

Expected Graduation: March 2027

Master - M2 MVA, *ENS Paris Saclay* 2022 — 2023

Main courses: Optimisation, Object recognition and computer vision, 3D Computer vision.

Engineering degree, *Telecom Paris* 2021 — 2023

Main courses: Variational and Bayesian methods and discrete optimization, convex optimization,graph mining, machine learning.

Engineering degree , *Ecole polytechique de Tunisie* 2019 — 2021

Main courses: : Mathematical statistics and probability, quantum mechanics , signal processing ,scientific calculus, operations research

Preparatory Classes (CPGE) , *IPEST* 2017 — 2019

Experience

DASSAULT SYSTEMES | ***Research engineer intern*** April 2023 – September 2023

Deep Learning applied to exact 3D modeling .

Tasks : State of the art of neural networks applied to structured and exact 3D models , Pre-processing of structured databases of exact geometries , Design of a learning architecture capable of generating exact 3D geometries

Udini / DeepSmile Lab | ***Computer Vision research intern*** June 2021 – August 2021

Models of ”Graph Neural Networks” for the analysis of intra-oral 3D scans.

Publications

SEM-ROVER: Semantic Voxel-Guided Diffusion for Large-Scale Driving Scene Generations ECCV 2026
3D diffusion , Deferred rendering , large-scale generation

SWAG: Splatting in the Wild images with Appearance-conditioned Gaussians ECCV 2024
3D reconstruction , 3DGS , in-the-wild

Skills

Programming Python , PyTorch , C++
Tools & OS Git, Linux, Jupyter/Colab, Pycharm, LaTeX
Languages French , English, Arabic

Extra-curricular activities

Competitive Programming
Sports Running , Football university team