Mohamed Sayed, PhD masayed.com, GitHub, LinkedIn, Google Scholar
mohamed.sayed.17@ucl.ac.uk
Senior Research Scientist at Niantic, Inc.
+44 (0) 7533 330760

I am excited about 3D reconstruction and real-world vision systems and models. My recent work is on depth estimation and 3D reconstruction, 3D Gaussian Splatting & NeRFs, generative models, advanced techniques for augmented reality effects, and abstracted scene geometry estimation.

Work Experience

June 2024 - London — ***Senior Research Scientist, Niantic, Inc.***
3D Reconstruction, Depth Estimation, Novel View Synthesis, and Generative Diffusion Models

April 2023 - June 2024, London — ***Research Scientist, Niantic, Inc.***

Aug 2022 - Feb 2023, London — ***Part-time Researcher, Niantic, Inc.***
Production work for SimpleRecon

April - July 2022, Zurich — ***Research Intern, Disney Research | Studios***
Controllable Super Resolution and Diffusion Models

May - Dec 2021, London — ***Research Intern, Niantic, Inc.***
Depth Estimation and 3D Reconstruction - Work accepted at ECCV 2022 and patent pending.

Spring 2017, Cairo — ***Software Intern, Valeo***
Developed automationfor hardware integration testing, greatly reducing regression-test time.

Summer 2016, Cairo — ***IT Intern, Mercedes-Benz Egypt***
Recognized by the CEO for reporting and fixing errors in the employee time tracking system.

Education

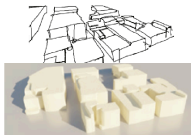
September 2018 - March 2023 — ***PhD in Computer Science, Computer Vision (University College London)***
Supervised by Prof. Gabriel Brostow (www0.cs.ucl.ac.uk/staff/g.brostow/).

September 2017 - September 2018 — ***MSc Computer Graphics, Vision, and Imaging (University College London)***
Distinction and Dean's List. Thesis: "Scripted Camera Control Through Visual Tracking." Thesis mark: 91/100.

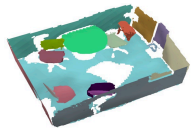
September 2012 - May 2017 — ***Bachelor of Electrical Engineering, Communications & Computer Engineering (Cairo University)***
Distinction with honors. Thesis: Improving the performance of a widely used Mentor tool with Process Mining.

Publications

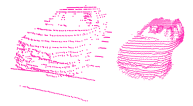
DoubleTake: Geometry Guided Depth Estimation
Mohamed Sayed, Filippo Aleotti, Jamie Watson, Zawar Qureshi, Guillermo Garcia-Hernando, Gabriel Brostow, Sara Vicente, Michael Firman
European Conference on Computer Vision - ECCV 2024
Project Page, Paper, Code, Video, Bibtex



Rapid Sketch-Based 3D City Modeling
Gizem Esra Unlu, **Mohamed Sayed**, Yulia Gryaditskaya, Gabriel Brostow
European Conference on Computer Vision - ECCV 2024
Bibtex



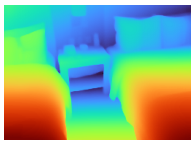
AirPlanes Accurate Plane Estimation via 3D-Consistent Embeddings
Jamie Watson, Filippo Aleotti, **Mohamed Sayed**, Zawar Qureshi, Oisin Mac Aodha, Gabriel Brostow, Michael Firman, Sara Vicente
Computer Vision and Pattern Recognition - CVPR 2024
Project Page, Paper, Code, Video, Bibtex



An Empirical Study of the Generalization Ability of Lidar 3D Object Detectors to Unseen Domains
George Eskandar, Chongzhe Zhang, Abhishek Kaushik, Karim Guirguis, **Mohamed Sayed**, Bin Yang
Computer Vision and Pattern Recognition - CVPR 2024
Paper

Don't Look Now: Audio/Haptic Guidance for 3D Scanning of Landmarks
Jessica Van Brummelen, Liv Piper Urwin, Oliver James Johnston, **Mohamed Sayed**, Gabriel Brostow
CHI Conference on Human Factors in Computing Systems - CHI 2024
Paper

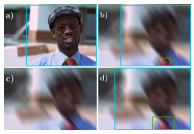
Virtual Occlusions Through Implicit Depth
Jamie Watson, **Mohamed Sayed**, Zawar Qureshi, Gabriel Brostow, Sara Vicente, Oisin Mac Aodha, Michael Firman
Computer Vision and Pattern Recognition - CVPR 2023
Project Page, Paper, Code, Video, Bibtex



SimpleRecon: 3D Reconstruction Without 3D Convolutions
Mohamed Sayed, John Gibson, Jamie Watson, Victor Prisacariu, Michael Firman, Clément Godard
European Conference on Computer Vision - ECCV 2022
Project Page, Paper, Code, Video, Bibtex, Media: Niantic Labs Blog, Marktechpost Article

LookOut! Interactive Camera Gimbal Controller for Filming Long Takes
Mohamed Sayed, Robert Cinca, Enrico Costanza, Gabriel Brostow
Transactions on Graphics - ToG 2022, SIGGRAPH 2022
Project Page, Paper, 30s Fast Forward, Video, Filmed Scenes, Bibtex

Interactive Sketching of Mannequin Poses
Gizem Esra Ünlü, **Mohamed Sayed**, Gabriel Brostow
International Conference on 3D Vision - 3DV 2022
Project Page, Paper, Video, Bibtex



Improved Handling of Motion Blur in Online Object Detection
Mohamed Sayed, Gabriel Brostow
Computer Vision and Pattern Recognition Conference - CVPR 2021
Project Page, Paper, Video, Code, Bibtex

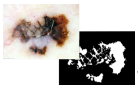
Academic Peer Reviewing

Conferences: CVPR ('23, '24, '25), ECCV '24, ICCV '23, SIGGRAPH '23, SIGGRAPH Asia ('23, '24), BMVC '22. **Journals:** TPAMI '22, IJCV '22

Teaching

University College London **Voted Best Teaching Assistant (TA) in Computer Science (2018/2019).** *Machine Vision* - 2018, 2019, 2020 (head); *Computer Graphics* - 2020; *Image Processing* - 2018, 2019; *Computational Photography and Capture* - 2019, 2020

Other Projects



Melanoma Classification *(2016)*
Built a classifier for diagnosing melanoma skin lesions through dermoscopic images.

Telescope Guidance System *(2016)* *Images*
Astrophotography with a custom system (hardware and software) using an Arduino and the ASCOM platform.

Skills

Languages	Python, MATLAB, C++, C#, Assembly	***DL Libraries***	Pytorch, Tensorflow
Useful Tools	COLMAP, Inkscape, Adobe Photoshop, Adobe After Effects, Google Cloud Compute	***Hardware***	Arduino, Soldering, 3D Printing, Real-time Control, Serial Communication
Hobbies	Photography, Cooking, Running, Model Making		