

Oscar Pueyo-Ciudad

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Resume

I am Oscar Pueyo-Ciudad, a first-year PhD Candidate in Computational Imaging supervised by Prof. Diego Gutierrez and Prof. Albert Redo-Sanchez in the Graphics & Imaging Lab at Universidad de Zaragoza (Spain). Previously, I studied a Bachelor in Computer Engineering and a Master of Engineering in Robotics, Graphics and Computer Vision at the Universidad de Zaragoza.

My research interests are related to Computational Imaging: Non-line-of-sight imaging, transient imaging, polarization imaging, forward and inverse computer graphics, and computer vision.

Publications

Time-Gated Polarization for Active Non-Line-Of-Sight Imaging

Dec 2024

Oscar Pueyo-Ciudad, Julio Marco, Stephane Schertzer, Frank Christnacher, Martin Laurenzis, Diego Gutierrez, Albert Redo-Sanchez

[10.1145/3680528.3687575](https://doi.org/10.1145/3680528.3687575) [🔗](#) (SIGGRAPH Asia 2024)

Education

Ph.D. Universidad de Zaragoza, Computational imaging

Jan 2024 – present

- Thesis title : Non-line-of-sight imaging using virtual wave optics
- Supervised by Prof. Diego Gutierrez and Prof. Albert Redo-Sanchez

MEng Universidad de Zaragoza, Robotics, Graphics and Computer Vision

Sept 2022 – Feb 2024

- GPA: 9.73 / 10.0
- Specialization in Computational Imaging

BEng Universidad de Zaragoza, Computer Engineering

Sept 2018 – July 2022

- GPA: 9.63 / 10.0. #1 of the promotion
- Specialization in Computation

Experience

French-Germal Research Institute of Saint-Louis (ISL), Visiting Researcher

Saint Louis, France

- Experimental data capture in real time-of-flight systems

Dec 2023

Graphics and Imaging Lab, Research intern

Zaragoza, Spain

- Studied transient rendering and simulation of hidden scenes
- Studied the polarization of light and its simulation
- Studied the basics and algorithms of non-line-of-sight imaging
- Developed prototype algorithms combining NLOS with polarization

Mar 2023 – June 2023

Robotics, Perception and Real Time (RoPeRT), Scholarship researcher

Zaragoza, Spain

- Studied fundamentals of Computer Vision and developed a topological Visual SLAM algorithm to guide the surgeon during endoscopies

Sept 2021 – July 2022

Awards and Acknowledgements

FPU Grant

Jan 2024 – Jan 2028

- Most competitive Spanish grant for funding the Ph.D.

- Four-year grant from the Spanish Ministerio de Ciencia, Innovación y Universidades

Extraordinary End-of-Degree Award

June 2023

- Award for the best academic results during the computer engineering degree

Best Computer Engineering Bachelors thesis in Aragon

Apr 2023

- I received the first prize in the [Colegio Profesional de Ingeniería Informática de Aragón](#) best Bachelor's thesis awards for my Bachelor's thesis [Place Recognition in Visual SLAM with endoscopic sequences](#), where we explored Computer Vision and SLAM techniques to build a topological map to guide the surgeon in colonoscopies.

Honors in 5 subjects during the Master's

Sept 2022 – Feb 2024

- I obtained honors in 5 subjects during the MEng in Robotics, Graphics, and Computer Vision, including the Master's thesis.

Honors in 32 subjects during the Bachelor's

Sept 2018 – July 2022

- I obtained honors in 32 out of 39 subjects during the Bachelor's in Computer Engineering, including the Master's thesis.

Projects

Exploiting polarization in Non-Line-of-Sight imaging

- Master's thesis. Research on the usage of the information encoded in polarization in NLOS imaging. with each person's edits synchronized
- Supervised by Albert Redo-Sanchez and Diego Gutierrez.
- Grade: 10.0 / 10.0 with honors.
- Tools Used: Mitsuba3, DrJiT, Mitransient, Python, LaTeX

Place recognition in Visual SLAM with endoscopic sequences

- Bachelor's thesis. Using computer vision point features and bags of words in appearance based topological SLAM in endoscopic sequences.
- Supervised by Juan D. Tardos and Juan J. Gomez.
- Grade: 9.8 / 10.0 with honors.
- Tools Used: OpenCV, C++, Python, MATLAB, DBoW, LaTeX

Technologies

Languages: Python, C++, C, MATLAB, Bash, LaTeX

Technologies: Mitsuba3, DrJiT, Mitransient, OpenCV

Dissemination

Week of Engineering and Architecture

Mar 2024

- We showed experiments to high-school students on light transport and Graphics with other members of the Graphics and Imaging Lab

Researcher's night

Sept 2023

- We explained with other members from the Graphics and Imaging Lab our research to the general public

Languages

English (CAE - C1)

2018

- Cambridge English Level 2 Certificate in ESOL International (Advanced). Grade: 186

Spanish (native)

Social Skills

Class delegate

2018 – 2022

- Delegate of our class during the Bachelor's in Computer Engineering

Degree delegate

2019 – 2021

- Delegate of the Degree in Computer Engineering

Sports

Volleyball player - School of engineering and architecture

2019 – 2023

Volleyball player - Club Voleibol Zaragoza

2019 – 2023

- 1st and 2nd senior male aragonese autonomic division

Volleyball player - AD Miguel Catalán

2023 – present

- 1st senior male aragonese autonomic division