

# Daniel Martin

Last updated: July, 2023

## Education

- 2020–2024 **PhD Programme on Computer Science**  
Universidad de Zaragoza
- Supervised by Prof. Belen Masia and Prof. Diego Gutierrez.
  - Funded by a 4-year competitive grant from Gobierno de Aragon.
  - Awarded a PhD Fulbright Scholarship for a 6-month research in the US.
- 2018–2020 **MSc on Computer Science**  
Universidad de Zaragoza
- Honorary Mention (9.8/10) in Master's thesis.
  - GPA: 9.1/10.
- 2014–2018 **BSc on Computer Science**  
Universidad de Zaragoza
- Honorary Mention (9.5/10) in Bachelor's thesis.
  - GPA: 7.9/10.
  - Award "Future engineer" to the best Bachelor's career.

## Publications

### Journal Publications

- [J7] **D-SAV360: A Dataset of Gaze Scanpaths on 360° Ambisonic Videos**  
*Edurne Bernal, [Daniel Martin](#), Sandra Malpica, Pedro J. Perez, Diego Gutierrez, Belen Masia, Ana Serrano*  
[JCR Q1] - IEEE Transactions on Visualization and Computer Graphics (Proc. ISMAR 2023)  
DOI: <https://doi.org/xx.xxxx/xxxxxxxxxx>
- [J6] **Task-dependent Visual Behavior in Immersive Environments: A Comparative Study of Free Exploration, Memory and Visual Search**  
*Sandra Malpica, [Daniel Martin](#), Diego Gutierrez, Ana Serrano, Belen Masia*  
[JCR Q1] - IEEE Transactions on Visualization and Computer Graphics (Proc. ISMAR 2023)  
DOI: <https://doi.org/xx.xxxx/xxxxxxxxxx>
- [J5] **A Study of Change Blindness in Immersive Environments**  
*[Daniel Martin](#), Xin Sun, Diego Gutierrez, Belen Masia*  
[JCR Q1] - IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VR 2023)  
DOI: <https://doi.org/10.1109/TVCG.2023.3247102>
- [J4] **ScanGAN360: A Generative Model of Realistic Scanpaths for 360° Images**  
*[Daniel Martin](#), Ana Serrano, Alexander W. Bergman, Gordon Wetzstein, Belen Masia*  
[JCR Q1] - IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VR 2022)  
★ Best Journal Paper Award ★  
DOI: <https://doi.org/10.1109/TVCG.2022.3150502>
- [J3] **Multimodality in VR: A survey**  
*[Daniel Martin](#)\*, [Sandra Malpica](#)\*, Diego Gutierrez, Belen Masia, Ana Serrano*  
[JCR Q1] - ACM Computing Surveys (2022)  
DOI: <https://doi.org/10.1145/3508361>

- [J2] **SST-Sal: A Spherical Spatio-temporal Approach to Saliency Prediction in 360° Videos**  
*Edurne Bernal, Daniel Martin, Diego Gutierrez, Belen Masia*  
 [JCR Q3] - Computers and Graphics (Proc. CEIG 2022)  
 DOI: <https://doi.org/10.1016/j.cag.2022.06.002>
- [J1] **Imperceptible manipulation of lateral camera motion for improved virtual reality applications**  
*Ana Serrano\*, Daniel Martin\*, Karol Myszkowski, Diego Gutierrez, Belen Masia*  
 [JCR Q1] - ACM Transactions on Graphics (Proc. SIGGRAPH Asia 2020)  
 DOI: <https://doi.org/10.1145/3414685.3417773>

### Peer-reviewed Conference Publications

- [C1] **DriveRNN: Predicting Drivers' Attention with Deep Recurrent Networks**  
*Blanca Lasheras-Hernandez, Belen Masia, Daniel Martin*  
 Proc. of the Spanish Computer Graphics Conference (CEIG), 2022  
 DOI: <https://doi.org/10.2312/ceig.20221149>

### Posters and Workshops

- [W2] **Auditory stimuli degrade visual performance in virtual reality**  
*Sandra Malpica, Ana Serrano, Julia Guerrero-Viu, Daniel Martin, Edurne Bernal, Diego Gutierrez, Belen Masia*  
 ACM SIGGRAPH 2022 Posters  
 DOI: <https://dl.acm.org/doi/pdf/10.1145/3532719.3543220>
- [W1] **Panoramic convolutions for 360° single-image saliency prediction**  
*Daniel Martin, Ana Serrano, Belen Masia*  
 CVPR's Fourth Workshop on Computer Vision for AR/VR (2020)  
 URL: [PDF](#)

### Others

- [O1] **A Probabilistic Time-Evolving Approach to Scanpath Prediction**  
*Daniel Martin, Diego Gutierrez, Belen Masia*  
 Preprint arXiv:2204.09404 - Under Submission  
 DOI: <https://doi.org/10.48550/arxiv.2204.09404>

## Internships

- Jun - Sep 22 **Adobe Research (San Jose, CA)**  
*Research intern (Three months)*  
 Supervised by Dr. Xin Sun.
- May - Sep 23 **Adobe Research (San Francisco, CA)**  
*Research intern (Three months)*  
 Supervised by Dr. Aaron Hertzmann.
- Sep - Dec 23 **Meta Reality Labs (Redmond, WA)**  
*Research intern (Three months)*  
 Supervised by Dr. Michael Proulx.



## Professional Service

### Program Committee Member

- Conferences ACM Symposium on Applied Perception (2022, 2023)  
 Spanish Computer Graphics Conference (2022, 2023)

### Reviewer

- Journals Computers and Graphics (2023, 2022), ACM Transactions on Graphics (2022), ACM Transactions on Applied Perception (2022), Virtual Reality (2022, 2021), IEEE Transactions on Multimedia (2022), IEEE Transactions on Mobile Computing (2022), Graphics and Visual Computing (2021), Multimedia Systems (2021), IEEE Transactions on Circuits and Systems for Video Technology (2021)
- Conferences IEEE Conference on Virtual Reality and 3D User Interfaces (2023, 2022), ACM SIGGRAPH (2023, 2022), ISMAR (2023), ACM Symposium on Applied Perception (2023, 2022), Pacific Graphics (2023), Spanish Computer Graphics Conference (2022), Eurographics (2021), MobileHCI (2021), ACM Symposium on Virtual Reality Software and Technology (2021)

### Reviewing milestones

#### 2023 IEEE VR 2023 - #1 Reviewer

I was the reviewer (among aprox. 280) who reviewed more submissions.  
(<https://ieeevr.org/2023/committees/reviewers/>)

### Other service

- 2022 - Today I am an External Reviewer for the Graphics Replicability Stamp Initiative  
(<http://www.replicabilitystamp.org/>)

## Talks

- Dec 2022 **ScanGAN360: A Generative Model of Realistic Scanpaths for 360° Images**  
*Invited speaker at SIGGRAPH Asia 2022*  
Daegu, South Korea  
*- Not attended due to travel issues -*

## Funding and Awards

- 2023 **Fulbright Predoctoral Grant**  
Granted a [Fulbright Predoctoral Grant \(2024\)](#) to conduct a research in the U.S. for six months  
*Awarded only to the 10 best projects at national level*  
*- Renounced -*
- 2022 **Best Paper Award**  
ScanGAN360: A Generative Model of Realistic Scanpaths for 360° Images  
IEEE VR 2022 (TVCG Journal Track)
- 2020 - 2024 **Predoctoral Grant**  
4-year competitive grant from Gobierno de Aragon (Spain). #4 of 50 applicants
- 2018 **Future Engineer**  
Award to the best career on Bachelor's Computer Science from Tecnara

## Teaching

- 2022 - 2023 **Modeling and Simulation of Appearance**  
*Master's degree in Robotics, Graphics, and Computer Vision*  
Universidad de Zaragoza
- 2020 - 2022 **Virtual Reality**  
*Master's degree in Robotics, Graphics, and Computer Vision*  
Universidad de Zaragoza
- 2021 - 2022 **Computer Graphics**  
*Bachelor's degree in Computer Science*  
Universidad de Zaragoza
- 2021 - 2023 **Programming Fundamentals**  
*Bachelor's degree in Industrial Technologies*  
Universidad de Zaragoza

## Teaching evaluation

2020 - Today So far, I have received the maximum [evaluation score](#) from students (i.e., Evaluación Positiva Destacada) every academic course.

## Supervision

- 2023 - Today **Deep learning models for 360° audiovisual saliency prediction**  
*Jorge Pina*  
MSc Thesis - Master's degree in Robotics, Graphics and Computer Vision  
Ongoing
- 2023 - Today **A framework to implement multiple redirected walking techniques in VR**  
*Carmen Real*  
BSc Thesis - Bachelor's degree in Computer Science  
Ongoing
- 2023 - Today **Top-down saliency models in VR**  
*Gabriel Olteanu*  
BSc Thesis - Bachelor's degree in Computer Science  
Ongoing
- Jun 2022 **Deep learning models for 3D mesh saliency prediction**  
*Andres Fandos*  
MSc Thesis - Master's degree in Robotics, Graphics and Computer Vision  
Grade: 9.5/10
- Jun 2022 **Audiovisual saliency prediction in 360° videos**  
*Santiago Jimenez*  
BSc Thesis - Bachelor's degree in Computer Science  
Grade: 9.6/10
- Feb 2022 **Modeling user behavior in dynamic 360° environments**  
*Eduarne Bernal*  
MSc Thesis - Master's degree in Robotics, Graphics and Computer Vision  
Grade: 10/10 (Honorary Mention)
- Feb 2022 **Development of a data collection and visualization tool related to content exploration in VR**  
*Pedro Pérez*  
BSc Thesis - Bachelor's degree in Computer Science  
Grade: 9.0/10
- Sep 2021 **Deep learning models for eye tracking data**  
*Fernando Peña*  
BSc Thesis - Bachelor's degree in Computer Science  
Grade: 8.5/10
- Jun 2021 **Study of Advanced Driver Assistance Systems and a proposal for the application of eye-tracking techniques**  
*Blanca Lasheras*  
BSc Thesis - Bachelor's degree in Mechanical Engineering  
Grade: 9.0/10
- Jun 2020 **Single-image depth estimation of 360° panoramas with deep learning**  
*Javier Gimenez*  
BSc Thesis - Bachelor's degree in Computer Science  
Grade: 9.0/10

## Other dissemination events

- 2022 **3-minutes Theses Finalist**  
3-minutes dissertation of my thesis for non-expert public, *Campus Iberus, Universidad de Zaragoza*

2022 **European Researchers Night**

Presented our group's research activities to the attendees, *Universidad de Zaragoza*

2021, 2022 **NEOcom Talks**

Invited speaker - Advances on Virtual Reality for Engineering students, *Universidad de Zaragoza*