


David Pascual Hernández

Computer Vision · AI · Birding   



I'm a **computer vision researcher** dedicated to advancing **autonomous driving** in complex outdoor environments, making it safer and smarter. Since the start of my career, I've been hands-on with every stage of vision-based system development, **from image capture to deployment**. My experience **leading a team** through challenging R&D projects has given me the opportunity to work at the intersection of AI and **real-world applications**—an area that continually challenges and inspires me. Currently **pursuing a PhD**, I'm always on the lookout for new ways to create impactful technology. Outside of work, you'll often find me **exploring nature** or diving into the latest AI trends!

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 David Pascual-Hernández

GOALS



Keep myself updated with the latest trends in computer vision and AI, and gain hands-on experience with the most relevant advances in the field.



An inclusive and diverse work environment where I can build meaningful relationships with people from different backgrounds.



A project in which I can continue to build my leadership skills and have a direct, tangible impact in the real world.



A healthy work-life balance that allows me to continue growing as an amateur naturalist and musician.

TOOLS

Python	●	●	●	●	●
OpenCV	●	●	●	●	●
PyTorch	●	●	●	●	●
VSCode	●	●	●	●	●
WandB	●	●	●	●	●
ONNX	●	●	●	●	●
Streamlit	●	●	●	●	●
PyCharm	●	●	●	●	●
L ^A T _E X	●	●	●	●	●
Git	●	●	●	●	●
Docker	●	●	●	●	●
Gitlab CI	●	●	●	●	●
Linux	●	●	●	●	●
Matlab	●	●	●	●	●
Kibana	●	●	●	●	●
ElasticSearch	●	●	●	●	●
C++	●	●	●	●	●
JavaScript	●	●	●	●	●

LANGUAGES

English | Working knowledge
Spanish | Mother tongue

EXPERIENCE

Now
Oct 2024



Research associate

UNIVERSIDAD REY JUAN CARLOS

Working towards advancing the field of **autonomous driving** in unstructured outdoor environments.

Oct 2024
Jan 2023



Optical Team Lead

SEDDI

As the leader of the optical team, I was responsible for managing the day-to-day work of a small **team of R&D engineers**. I was responsible for planning, reviewing, and delivering complex computer vision projects, reporting directly to the product manager. My team worked with advanced technologies such as **transformers, GANs, and diffusion models**, applied to tasks like **image-to-image translation, image restoration, and image quality assessment**. Additionally, I was actively involved in the development process.

Jan 2023
Aug 2018



Computer Vision Engineer

SEDDI

As a computer vision engineer at SEDDI, I contributed to the development of its flagship product, **textura.ai**, from its inception. Joining the company at a very early stage allowed me to be involved in every step of the process. My main achievements can be summarized as follows:

- Assisted in the design of a complex multi-camera and multi-illumination **computer vision setup** for digital material acquisition (**gonioreflectometer**).
- Developed **image analysis tools** for extracting mechanical and optical properties from **textile** samples captured in the aforementioned setup, utilizing both **classic computer vision tools** and **deep learning**.
- Studied and implemented solutions for **color constancy and calibration** for a variety of image acquisition devices.
- Led grooming, planning, review, and daily meetings** for the optical team.

Aug 2018
Oct 2017



Immersive Video Researcher (Internship)

NOKIA BELL LABS

As an immersive video researcher, my internship primarily focused on the field of **Human-Computer Interaction**, specifically on developing user interfaces based on **hand gesture recognition**. Additionally, I became familiar with **augmented, mixed, and virtual reality** concepts and techniques.

Jan 2017
Aug 2016

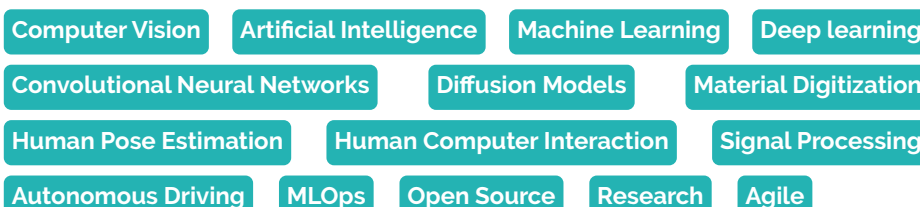


Machine Vision Engineer (Internship)

ROBERT BOSCH

As a machine vision engineer intern, I provided support to the Process Engineering Department by engaging in a variety of tasks. These included studying **Data Matrix** reading systems and **optical lenses**, as well as developing an **optical calculator**. Additionally, I diagnosed and designed computer vision systems and developed computer vision applications with **Neurocheck**.

INTERESTS





VOLUNTEERING



Google
Summer of Code



JdeRobot



SEOBirdLife



REFERENCES

Elena Garcés

Director of tech @ SEDDI

José María Cañas

Professor @ URJC



FORMAL EDUCATION

2024 - Now



PhD in Artificial Vision, Pattern Recognition and Image Processing

REY JUAN CARLOS UNIVERSITY

Autonomous driving in unstructured outdoor environments.

2017 - 2020



MSc in Computer Vision

REY JUAN CARLOS UNIVERSITY

Acquired skills include **2D and 3D image and video processing** using both classic signal processing and **machine learning** techniques, applied to fields such as **medical imaging, robotics and biometrics**.

Score: **8.85**

Final project: **Efficient 3D human pose estimation from RGBD sensors**

2016



Erasmus+ | Electrical Engineering

ÓBUDA UNIVERSITY

Complemented my BSc with **electronics and programming** related subjects.

2012 - 2017



BSc in Audiovisual and Multimedia Systems Engineering

REY JUAN CARLOS UNIVERSITY

Acquired skills include deep theoretical and practical knowledge of **digital image processing, acoustics, networks, and communication systems**. Furthermore, I learned basic core skills that have been critical in my career, such as **programming, statistics, machine learning, and image acquisition fundamentals**.

Score: **7.59**

Final project: **Study of Convolutional Neural Networks using Keras Framework**



SELF-EDUCATION

2021



Full Stack Deep Learning

UC BERKELEY 

The course offered an in-depth exploration of full-stack production deep learning, from problem formulation to deploying models at scale, emphasizing practical skills for real-world applications.

Certificate of achievement



PUBLICATIONS

Towards Material Digitization with a Dual-scale Optical System

2023

GARCÉS, E., ARELLANO, V., RODRIGUEZ-PARDO, C., PASCUAL-HERNANDEZ, D., SUJA, S., & LOPEZ-MORENO, J.

ACM Transactions on Graphics (TOG), 42(4), 1-13.

UMat: Uncertainty-Aware Single Image High Resolution Material Capture

2023

RODRIGUEZ-PARDO, C., DOMINGUEZ-ELVIRA, H., PASCUAL-HERNANDEZ, D., & GARCÉS, E.

Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (pp. 5764-5774)

Efficient 3D human pose estimation from RGBD sensors

2022

PASCUAL-HERNANDEZ, D., DE FRUTOS, N. O., MORA-JIMÉNEZ, I., & CANAS-PLAZA, J. M.

Displays, 74, 102225.

Depth from Focus: an application for fabrics captured at microscale

2019

PASCUAL-HERNANDEZ, D., GARCÉS, E., ALIAGA C., & LOPEZ-MORENO, J.

The IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshop

