Carlos Villalba Esparza

16/07/1997
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Profile

Applied physicist specialized in Photonics, with an interdisciplinary profile, with particular interest in a broad spectrum of technological applications of Physics. Eager to contribute to science and technology development as part of a R&D project in an innovative company that allows me to put my acquired knowledge and skills into practice, and to exploit my full potential by trying to find disruptive solutions to today's challenges and problems.

Experience

Homologation Test Engineer
Applus+ IDIADA (Santa Oliva, Tarragona)
Laboratory testing and homologation reporting of lighting, light-signaling and indirect vision systems
<u>Tasks:</u> Optical and physical test performance of headlamps, signaling devices, mirrors, camera monitor systems and sensor systems. Homologation approval reports preparation and granting. Customer communication and support. Project elaboration, development and planification, including design of new protocols and experiments. Electronic devices management and software implementation.
June 2023-Present

Research Assistant
Photonics Research Labs, iTEAM-Universidad Politécnica de Valencia
High performance specialty optical fibers exploiting spatial division multiplexing for signal processing
<u>Tasks:</u> Bibliographic knowledge acquisition, find novel optical fibers designs and perform simulations, experiments plan and design, laboratory test and measurements, data treatment and analysis, and implementation and communication of results
November 2022-June 2023

Master Thesis Internship
Monocrom S.L (Vilanova i la Geltrú)
Evaluation of tensile stress on the electro optical characteristics of high power laser bar stacks
<u>Tasks:</u> Bibliographic and practical training, laboratory experimental measurements, and processing, interpretation and presentation of the results
March 2022-June 2022

Academic Training

Photonics Master's Degree (English)
Universidad Politécnica de Cataluña, 2022

Physics Bachelor's Degree
Universidad de Valencia, 2021

Complementary training

Introduction to databases
Universidad de Valencia

Collaboratory Artificial Intelligence and Big Data
Universidad de Valencia

Introduction to Graphical Visualization of Big Data
Universidad Politécnica de Valencia

Programming with Quantum Computers from IBM
Universidad de Valencia

Master in Python (online course)
Udemy

Training course on Fimmwave and Fimmprop
Photon Design

Storage Systems Course. The batteries.
Instituto Tecnológico de la Energía

Languages

English: **Cambridge First Certificate in English**
Cambridge English

Intensive Course Advanced Level in English
British English Centre (Puerto de Sagunto)

French: **Basic Level A2**
IES Eduardo Merello (Puerto de Sagunto)

Valencian: **Advanced Level C1**
Junta Qualificadora de Coneiximents en Valencià

German: **Basic Level Course Student**
Escuela Oficial de Idiomas de Tarragona

Skills

Programming: Matlab, Python, C++, Office, Mathematica, optical software (LabView, OptiFDTD, Fimmwave)

Communication and teamwork skills

Analytical skills and complex problem solving

Customer contact and support

Project management

Self-learning, initiative, organization, multitasking and autonomous work

Laboratory experience and techniques (optical, electromagnetic, chemical, clean room…)

High degree of motivation, effort and commitment, and willingness to travel