Xavier Sanchis Romeu

xavi.sanchisrom@gmail.com | +34 683442680

Exeter, United Kingdom | https://www.linkedin.com/in/xavier-sanchis-769ba1201/

Education

University of Exeter | Exeter, UK   2020 – 2023

BENG Electronic Engineering

- Achieved a First-Class grade in First Year and a Deans Commendation for academic excellence in my second and third year of studies. Obtained a First-Class grade overall.
- Obtained the Philip Booth Prize for submitting one of the two best final year individual projects of the whole engineering department in 2023.

Machine Learning

Deep understanding on neural networks, computer vision, object detection, RNNs and LSTMs.

Projects Undertaken

Individual Project – Computer Vision and Object Detection for Traffic Optimisation   2023

- Developed a system that uses object to identify vehicles and pedestrians at a junction to continuously map the state of traffic.
- Created Deep Learning models to classify detected pedestrians based on age and injury/disability to provide each pedestrian with a personalised minimum safety crossing time.

Second Year Project – Machine vision to detect faulty pieces.   2022

- Used the tensorflow library in python to train, test and validate a convolutional neural network to detect faulty factory pieces from images of said pieces.

Control Engineering

Deep understanding on stability analysis, controller design, frequency domain, feedback control, with methods such as Routh Hurwitz, Root Locus, Youla Parametrization, Nyquist Creiterion, Bode diagrams and PID.

Projects Undertaken - *Second Year Project – Robotics Design*   2022

- Worked in a group of 2 to design a robotic arm capable of soldering a rectangular shape in a 3D space.
- Used Solidworks for the physical design of the actuator.
- Used Matlab and Simulink to programme and simulate the movement of the actuator.

Communications Engineering

- Deep understanding on Fourier transforms and frequency domain, source encoding, information, channel coding, line coding, linear systems, ISI, noise, DSP (sampling, convolution, DTFT, DFT, Z-transform, pole-zero placement, window method, frequency sampling method, optimal method IIR filters, adaptive filtering

Analogue and Digital Electronics

- Deep understanding on passive components, diodes, transistors, op amps, multiplexers, encoders, flip flops, FPGAs, electronic circuit prototyping, design and integration, PCB layout design

Projects Undertaken - *Second Year Project* – *Optical Communication System Design* 2021
- Worked in a group of four to design, prototype and build a two-part system that would allow the transmission of sound from emitter to receiver with infrared waves with multisim.
- Designed an op-amp amplifier sub-system with variable gain and an LED emitter sub-system.
- Designed the PCB board for the emitter system with ultiboard.

Elians British School | La Nucia, Spain 2014 - 2020
Secondary Education
- 4 A-Levels: Physics (A*), Mathematics (A*), Business (A) and Spanish First Language (A).

Skills

Programming Languages:
- Python
- C
- Matlab
- JavaScript
- HTML, CSS

Languages:
- Spanish (native/bilingual)
- English (native/bilingual)
- German (intermediate)

Other skills:
- Solidworks CSWA certification
- Extensive work with Multisim

Soft skills:
- Critical thinking
- Empathy
- Teamwork
- Problem solving
- Diligence
- Working under pressure