Daniel Martinez Amigo

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Address

EDUCATION

University of Bath, United Kingdom 2016-2020
M.Eng in Computer Systems Engineering (First-Class Honours)

ENGINEERING EXPERIENCE

Personal Projects June 2020 – Present

Software Renderer
- Descriptions and bullet points

Shadertoy shaders
- Descriptions and bullet points

University Laboratories October 2016 – June 2020

Motion detection
- In this project we were given two greyscale frames from a video. We were tasked to reconstruct the second frame by implementing a block matching algorithm in MATLAB. To extend on the task given, I coded a system to enable different size blocks to allow either better reconstruction of the frame or faster processing.

Microcontroller programming
- In this laboratory we had to design multiple circuits such as a stopwatch, a digital padlock and a voltmeter and program a microcontroller to run the circuit created. This task was done in groups which allowed me to focus more on programming the microcontroller while closely working together with the person constructing the circuit to ensure everything functioned as intended.

SystemVerilog microprocessor and VGA controller
- For this laboratory we created a simple ALU, Register file and Program counter following a given specification for a processor. We then programmed a VGA controller that would display an image on a screen from an FPGA. We then combined the processor and the VGA controller to change the colours on the screen when different switches on the FPGA were pressed.

COMPUTER SKILLS

Programming languages:

- C/C++ (Competent) :
  Used C to program a microcontroller and a maze solving algorithm implementing A* search and C++ for a small programming project which involved creating a small game.
- Java (Competent) :
  Created a large school management program as a coursework for A-level computing. The program involved most aspects of java programming and had an SQL database implemented to manage student records and classes.
- MATLAB (Competent) :
  I used MATLAB for coursework for university and to solve mathematical and logical problems in an after school activity in high school.
- SystemVerilog (Basic)
  I used this in a second year module that involved creating implementing different programs on an FPGA.
- Python (Basic)

Software:

- Microsoft Office (Word,Excel,Powerpoint)
- OrCAD Capture CIS PCB Designer:
  I used OrCAD in all my laboratory practise including simulation of logic gates, simple circuits and PCB manufacture.
- Microsoft Visual Studio
  I used this to create a maze solving algorithm for a second year project at University

WORK EXPERIENCE

Elthorne Park High School September 2015 – July 2016

Maths and Science Tutor

- During my final year studying A-levels, I worked after school in a paid school-run programme in which higher level students would help students from years 7-11 with subjects they needed help in. I specialised in aiding them in Maths, Computing and Science (mainly physics).

LANGUAGES

English

- Speaking: Fluent
- Listening: Fluent
- Writing: Fluent
- Reading: Fluent

Spanish

- Speaking: Fluent
- Listening: Fluent
- Writing: Fluent
- Reading: Fluent

INTERESTS

Piano: I have played piano for 6 years. I highly enjoy it as a hobby and allows me to be creative when playing new pieces of music.

Tv, film, games?:

Skii: I have been skiing since I was 3 years old. I love the sport specially off-piste skiing.