Maria Teresa Blanco Abad

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Birthdate: 11/01/1995
Nationality: Spanish

EDUCATION:

Sept. 2018 – Nov. 2020 **TU Delft, The Netherlands**
MSc. in Embedded Systems. Track: Software and Networking
MSc thesis title: "Designing and implementing SFMAC: A MAC protocol for LoRa networks for efficient use of unlicensed bands" Grade: 8.5/10

Sept. 2019 – Dec. 2019 **Chalmers University, Sweden**
Exchange as part of UNITECH program. Attended Management and Telecommunication Engineering courses

Sept. 2016 – May 2017 **University of Rhode Island (URI), USA**
Electrical and Mechanical courses. Exchange program. GPA 3.86/4.0, on Dean's list

Sept. 2013 – May 2016 **University of Zaragoza, Spain**
Bachelor's degree in Industrial Engineering Technology. Spanish Degree equivalent to Mechanical/Electrical Engineering with concentration in Electronics. Final Grade 7.67/10

PROFESSIONAL EXPERIENCE:

Sept. 2018 - Feb. 2020 **Part-Time Electrical engineer at TU Delft student competition team: "Silverwing", NL**
- Coded scripts in Python and C++ to control motors. Responsible for software during test of performance of propellers
- Selected electrical components for actuation of control surfaces of the flying vehicle
- Contacted suppliers and achieved a partnership to sponsor the actuators for the vehicle

June 2019 - Aug. 2019 **Summer Internship at TWTG, Rotterdam, NL**
- Combined working in student competition team with working as an electrical engineer in project named: "Wireless software update of LoRa-enabled devices"
- The goal of the internship was to update a device's software without the need of a wired connection or: "software update over-the-air"

May 2018 – Aug. 2018 **Mechatronics intern at VDL Enabling Technologies Group (ETG), Eindhoven, NL**
- Improvement of the knowledge in the field of Control engineering by learning how to tune the robot PID controllers
- Design of Simulink blocks and Matlab scripts to add more functionality to the control architecture (Modeled an actuator, measurement system, encoder and a SPG)

Sept. 2017 – March 2017 **Software development intern at Amadeus IT Group, Boston, USA**
- Helped in development of the backend of a web application in Java and xml. The tool substitutes an already existing solution to include latest technologies and resources from American travel providers. The web application will be used by all Amadeus employees from the offices in North America and by corporate clients
- Followed SCRUM methodology to track the tasks completed and to ensure team work

May 2017 – Sept. 2017 **Software development intern at Amadeus IT Group, Boston, USA: Summer intern**
- Developed a real time dashboard to monitor metrics and KPIs resulting in an improvement of the productivity and visibility of the work produced by 20 people in the Front Office Reservation department
- Designed the software architecture: used Python for automating the data collection, Ruby for rendering the dashboard and APIs and Python libraries to retrieve data

ACTIVITIES:

Sept. 2019 - Present **Participant in UNITECH programme**

- Attended a joint module in ETH Zurich consisting on activities guided by corporate partner coaches focused on teamwork, leadership and management skills

Sept. 2014 - June 2016 **Member of Student board, University of Zaragoza, Spain**

- Representative of Industrial Engineering students
- Organized several conferences during "Engineering Cultural Week" (March 2016)

ELECTRICAL/SOFTWARE ENGINEERING PROJECTS:

Jan. 2020 - Nov. 2020 MSc thesis title: **("Designing and implementing SFMAC: A MAC protocol for LoRa networks for efficient use of unlicensed bands") TU Delft, NL**

- Graduation project which involves programming in C++ IoT devices to increase their battery life. Simulating in ns3 (C++) large scale LoRa networks to prove the increase in scalability with the proposed implementation. Coded scripts in Python to perform optimizations and data analysis.

March 2019 – July 2019 **Quadcopter control, TU Delft, NL**

- Team based project where we coded in C an embedded device. Main deliverables were programming of communication protocol, pitch yaw and roll control, filtering of raw data from sensors

March 2019 – July 2019 **SmartPhone Sensing , TU Delft, NL**

- Coded an android app for indoor localization

Sept 2018 – Dec. 2018 **AdHoc networks final project , TU Delft, NL**

- Deployed an AdHoc network to control a small robot car. Applied networking concepts and used C skills to program the arduino controlling the robot. Built-in server to connect to arduino developed in C++

Sept. 2016 – May 2017 **Electrical Capstone Design Project (Title: "SARNET, Search and rescue network"), Univ. of Rhode Island, USA**

- Integrated commercial off the shelf (COTS) hardware with open source to provide a networked platform capable of providing image processing, GPS location, visual and thermal imagery. Used OpenCV to detect contours in thermal images and Python to run scripts on a Raspberry Pi

COMPUTER SKILLS:

Programming languages: Python (Advanced), C (Advanced), C++ (Intermediate), Java-Android (Intermediate)
Engineering programs: Matlab (Advanced), Simulink (Intermediate), OrCAD (Basic), PSpice (Basic), AutoCad (Basic), Inventor (Basic), Microsoft Visual basic (Basic)
Devices: Raspberry Pi, ARM microcontrollers, Arduino, OcPoc

LANGUAGE SKILLS:

Spanish: native language
English: level C1, TOEFL IBT test (Score: 114, Jan. 2018)
French: level B2, DELF
Dutch: level A1