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Compiègne (60200)

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Robotics Engineer, Embedded Systems, Débutant

EXPERIENCES PROFESSIONNELLES

- mars 2022 / aujourd'hui** **Research Internship 'Control of Electromagnetic Smart Surface using Microcontrollers'**
Université de Technologie de Compiègne - Roberval Lab - Compiègne (60)
Control of the Smart Surface using the MSP432P401R microcontroller with C-coding and Code Composer Studio (CCS) software.
- Carry out the addressing phase of all the 3x3 cells of the surface to allow the passage of a sinusoidal signal generated by the microcontroller using the SPI protocol.*
- The signal is displayed by the Analog Discovery 2 using the WaveForms software. It passes through a DAC, then a V-I converter and finally reaches the smart surface to precisely move a magnetic cross placed on it.*
- janv. 2022 / mai 2022** **Cooperative Localization of Three Vehicles**
Université de Technologie de Compiègne - Compiègne (60)
Implementation of three methods to estimate the states and their associated covariance of three vehicles moving around a roundabout. The dataset is real and comes from the GNSS and the sensors implanted on the vehicles.
- The first method is the Standalone Extended Kalman Filter (EKF) perception, where vehicles filter their pose independently, without exchanging information between them.*
- In the second method, we consider that the three vehicles exchange their perception.*
- Replace some Kalman updates with CI (Covariance Intersection) updates to resolve measurement error correlation.*
- sept. 2021 / janv. 2022** **Developpement of a Robotic Hand Prosthesis**
Université de Technologie de Compiègne - Roberval Lab - Compiègne (60)
Review of the state of the art of existing solutions for robotic hand prosthesis.
- Control of the robotic hand by EMG signals using Arduino, servomotors, EMG and pressure sensors.*
- Successfully differentiating four types of movements according to the level of grip force.*
- févr. 2021 / févr. 2021** **Smart Irrigation System**
Université Libanaise Faculté de Génie - Beirut
Program a PIC18F458 microcontroller to obtain an automatic irrigation system with C-coding and MPLAB X software, and simulating the code with Proteus software.
- The system includes Automatic and Manual modes. The control is based on the values of the temperature and humidity sensors and displays them on the LCD screen, as well as other warnings and system errors that may occur*
- oct. 2020 / déc. 2020** **PLC (Programmable Logic Controller) Training Course**
Association EL BARAKA - Beirut
Programming of the Siemens-LOGO PLC with Ladder and FBD languages using LOGO!Soft Comfort software.
- Successful professional project of a "Sugar Filling Machine" operating in Automatic and Manual mode:*

Manual or fully Automated machine handling errors, start-stop and blackout situations in all positions and display of necessary information during the process. Different passwords allow to unlock the machine in case of error.

sept. 2020 / nov. 2020

Electrical Tricycle Design

Université Libanaise Faculté de Génie - Beirut

Power estimation for the system based on the selected specifications and selection of the appropriate design.

Creating all the parts of the tricycle using SolidWorks based on the actual parts, knowing the manufacturing process of each component of the system, and finally preparing the Shop drawings

août 2019 / mai 2022

Sumo-Robot

Page Personnel - Beirut

Detection and attack of another robot;

Implementation using Arduino, several sensors and motors.

DIPLOMES ET FORMATIONS

sept. 2017 / aujourd'hui

Bac +5 (Master / MBA), Mechanical Engineering - BAC+5

Lebanese University Faculty of Engineering III - Beirut

mai 2022 /

Bac +5 (Master / MBA), Automatic and Robotic of Intelligent Systems - BAC+5

Université de technologie de Compiègne - Compiègne (60)

COMPETENCES

C, Python, MATLAB, Simulink, MPLAB X, Proteus, microcontrollers (Arduino, PIC18F458, MSP432P401R), Code Composer Studio (CCS), SolidWorks, LogoSoft Comfort, AutoCAD, Comsol, DesignBuilder, FBD (Function Block Diagram), Ladder, MS Office (Word, Excel, PPT), Assembly.

COMPETENCES LINGUISTIQUES

Anglais	Professionnel
Français	Courant
Arabe	Bilingue

CENTRES D'INTERETS

Membre de l'Association Tebnine pour les services caritatifs et sociaux.

Sports : Football / Jogging / Natation