Tafita Rakotozandry

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Education

Lafayette College Expected in May 2022

Bachelor of Science: Electrical and Computer Engineering

Relevant Courses: Digital Circuits, Analysis and Design of Solid-State Circuits, Signal and Systems, Embedded Systems, Data Structures and Algorithms

Skills

- Circuit Analysis and Design
- Microcontrollers and FPGA programming
- Serial Protocols (UART, I2C, SPI, CAN)
- Programming Languages: Java, C, Python, MATLAB, System Verilog
- Design and simulation Software: KiCad, SPICE, LabView, SketchUp, AutoCAD

Experiences

Research Assistant Dec 2020 to present

Lafayette College, Easton, PA

Create a circuit model of the heart in order to allow medical engineers to improve the ventricular assist device
Improve patient heart cardiac function reading using Fast Fourier Transform signal processing technique

Electric Car Circuit Designer Intern Jun 2020 to Aug 2020

Vitesco Technologies, Toulouse France

Contributed to the design of a new circuit board which controls the motors of new model of electric vehicles for a car manufacturer in Germany
Developed a diagnostic software based on LabView to check if the different prototypes developed meet the industry's requirements

Remote Monitoring Software Developer Intern Feb 2018 to May 2018

Laboratory for Analysis and Architecture of Systems, Toulouse

Analyzed the communication protocol used by the different Uninterruptible Power Supplies (UPS) of the laboratory
Developed a web application to monitor and control these UPS remotely using Python, PHP, HTML and CSS

Relevant Projects

Pong Game Nov 2020 to Dec 2020

- Designed a pong game using PIC 32, LCD Displays and potentiometers
- Developed our own state machines of the game and used direct digital synthesis to generate soundtrack

Heart Rate Monitor Feb 2019 to May 2019

- Designed a low-level architecture of the system based on different logic gates
- Implemented the overall data processing of the heart rate monitor using FPGA

Maze Robot Mar 2019 to Mar 2019

- Participated on design of autonomous robot that escapes a maze for the Region 2 IEEE competitions
- Analyzed and proposed the different sensors needed to make the robot