Symphonie RAZAFINDRABE

symphonie@gatech.edu | +33 7 60 42 30 49

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Looking for a **full-time** position in **R&D software engineering**. Available starting from **March 2020**.

Coding	Data Analysis	Environment	Control	Prototyping	Languages
C#, C++, Java, PHP Python, Matlab HTML/CSS/JS	Machine learning, Statistics, Image Processing	Basic linux command, ROS	Motion planning, SLAM	Solidworks, PCB design	French (Native) English (Proficient)

EDUCATION

Georgia Tech, US
Aug 18 - Dec 19

MASTER'S IN ELECTRICAL AND COMPUTER ENGINEERING
Overall GPA 4.0/4.0

Courses: Machine Learning for Robotics, Digital Image Processing, Multi-agent Control

IMT Atlantique, FR
Aug 16 - Dec 19

MASTER'S IN CONTROL ENGINEERING AND INFORMATION TECHNOLOGY
Ranked in top 5 of class

Courses: Human-Computer Interface, Mechatronics, Data Structures and Algorithms (Java), Statistics

CPGE Bellevue, FR
Sept 13 - Jun 16

UNDERGRADUATE COURSES IN MATHEMATICS AND PHYSICS
Ranked in top 5 of class

Courses: Algebra, Analysis, Mechanics and Dynamics, Object Oriented Programming (Python), Database

EXPERIENCE

MindMaze, CH
Feb 19 - Aug 19

R&D ENGINEERING INTERN

Conception of a data model for neuroscience application and design a game for post-stroke rehabilitation:

- Recorded and extracted data from Kinect and games to support neuroscience research
- Set up asynchronous file transfer to a Azure cloud server to centralize data access
- Conceived the verification and validation protocol for the recorded data
- Implemented an API for patient performance metrics from kinematic data using Unity and C#

Result: Enabled the registration of patient tracking data and game-related properties for six different games for research and usability reporting

Xeelas, NL
Jun 18 - Dec 18

EMBEDDED SYSTEM INTERN

Implementation of a remote access solution for IoT devices:

- Developed an embedded dashboard in a Linux environment, using PHP, HTML/CSS/JS
- Conceived hardware for lithium batteries and solar panel testing, using Arduino and Altium Design
- Prototyped waterproof enclosures for outdoor installation using Solidworks and 3D printing
- Implemented a continuous integration pipeline for test automation using C++ and Python

Result: Enabled customers to monitor IoT devices remotely to reduce maintenance time

Ilotopia, FR
Feb 18 - Jun 18

VIRTUAL REALITY DEVELOPER

Conception of a virtual reality tool to landscape a neighbourhood park:

- Conceived and developed an ergonomic user interface using C#, Unity and HTC Vive
- Designed code architecture and set up system integration

Result: Proposed a simulated neighbourhood to 50 people including the Mayor

PROJECTS

BIONIC PROSTHETIC ARM
Aug 19 - Present

Biomedecial Engineering club. Conception and programmation of a bionic prosthetic arm controlled by EMG sensors.

NORDE - ELECTRIC SKATEBOARD COMPANY
Aug 18 - Aug 19

Personal project. Foundation of e-commerce for electric skateboard components. Designed and developed a website using PHP, HTML/CSS/JS. Dimensioned and modeled mechanical parts for CNC machining using Solidworks. https://norde.cc/calculator.php

PROBABILISTIC MAPPING SIMULATION
Oct 18 - Nov 18

Academic project. Robot exploration of a simulated space to determine the slope of the floor and position of obstacles using C++, ROS, Hough Transform, and Bayesian Fusion. Detected obstacle position with incertitude of 5mm.

MOTION PLANNING
Jan 18 - Jul 18

Academic project. Implemented a wireless control for a wheelbase robot, that follows a path drawn by the user. Designed an intuitive user interface for path drawing using Matlab. Converted path to PWM commands. Transmitted commands to an Arduino controlled robot