

# BARKOUM BETRA FELIX

@ felix\_betran@yahoo.com    17 Rue du Professeur Martin 31500 Toulouse  
+33753777134    Toulouse, France



## EXPERIENCE

### Tutor at the Faculty of Science and Engineering, Paul Sabatier University

October 2021 – August 2022    Toulouse, France

- In terms of C and Python programming language, discrete mathematics. The objective is to strengthen the skills of first and second-year students in the subjects mentioned above.

### Internship with SHANGHAI NILE INTELLIGENT TECHNOLOGY CO.LTD, Shanghai, China

April 2019 – September 2020    Shanghai, China

- Implementation of physiological signals-based algorithms in MATLAB and validation in hardware using C/C++ language.
- Simulation of analog front-end electrocardiogram data acquisition circuit using LTSPICE software.

### Online Part-time Job with SHANGHAI NILE INTELLIGENT TECHNOLOGY CO.LTD, Shanghai, China

June 2020 – Present    Shanghai, China

- Processing of physiological signals (ECG, PPG) on MATLAB.
- Implementation of algorithms made on Matlab on embedded systems (stm32, nrf51822, etc.)
- Design of analog electronic circuits (ECG and EEG sensor circuits, analog filters, etc.).

## PROJECTS

### Project - University of Paul Sabatier(UT3)

October 2021 - January 2022    Toulouse, France

- Implementation on MATLAB of a graphical interface to simulate numerical methods for optical fiber Erbium doped.
- Implementation of 8 bits Micro controller using VHDL

### Projcet - Shanghai University of Science and Technology (USST)

Sept 2020 – June 2021    Shanghai, China

- Complete development of a physiological signal acquisition device (PCB, optical detector, stm32 micro-controller, signal processing, Bluetooth etc.)
- Complete development of a Play Brick Breaker video game in C++
- Implementation of artificial intelligence (Multi layer perceptron) on FPGA. The system is able to recognize through a camera, the numerical digits ranging from 0 to 9. The system is built on Zybo z7020 board.

## SKILLS

- Programming in C/C++, VHDL, java et Python.
- Modeling of signal processing algorithms on MATLAB.
- Design of digital electronic circuits (STM32, FPGA, etc.).
- Research & developpement
- Programming of micro-controllers and FPGA

## EDUCATION

### Master of Electronics of Embedded System and Telecommunication

2021 – present    UT3, Toulouse, France

### Master of Instrument Science and Technology

2021 – present    USST, Shanghai, China

### Bachelor of Telecommunication Engineering

2016-2020    USST, Shanghai, China

### Training: Chinese Language, Engineering's Mathematics and Physics

2015-2016    Tongji University, China

## TECHNICAL SKILLS

FPGA   STM32   nRf51   Arduino  
PCB   C/C++ & Labview   keil  
Proteus & Altium Designer  
MATLAB & PYTHON   VHDL & Verilog  
Vivado & Quartus   LaTeX   java

## LANGUAGES

French  
English  
Chinese



## HOBBIES

Movie   Football   voyage  
Swimming   Music

## PUBLICATIONS

- Wearable IoT based Smart Ambient Observation System (SABOS), third author, IEEE Sensors Journal. Link:<https://ieeexplore.ieee.org/document/9486939?source=authoralert>
- A Low Complex IoT-Based Systolic Peak Detection Algorithm for Healthcare: In process, First author, IEEE IoT.

## CERTIFICATIONS

- C++ programming
- Asia Mathematical Contest Modelling