

# BARKOUM BETRA FELIX

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🌐 <https://github.com/felixcamer>

## EXPERIENCE

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

📅 October 2021 – August 2022 📍 Toulouse, France

- Helping first and second grade student in programming ( C/C++, Python ) and mathematic .

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

📅 June 2020 – Present 📍 Shanghai, China

- Digital signal processing (ECG, PPG) using MATLAB.
- Implementation of algorithms using MATLAB.
- Hardware validation on stm32 and nrf51822
- Design of analog electronic circuits (ECG and EEG sensor circuits, analog filters, etc.).

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

📅 April 2019 – September 2020 📍 Shanghai, China

- Analog circuits design
- Using C language in Embedded system boards based on STM32 MCU
- Simulation of analog front-end electrocardiogram data acquisition circuit using LTSPICE software.

## 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.
- Design of digital electronic circuits .
- Research & Development

## EDUCATION

### Master of Electronics, Embedded System and Telecommunication

📅 2021 – present 📍 UT3, Toulouse, France

### Master of Instrument Science and Technology

📅 2020 –2023 📍 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

Football Travelling Swimming

## 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