

# CHAKIB BELGAID

## PHD Candidate in Computer Science

📍 Lille , FRANCE  
🌐 chakib-belgaid

@ chakib.belgaid@gmail.com  
🌐 chakib-belgaid

🐦 @chakib\_med

☎ + (33) 755297214

🌐 chakib-belgaid.github.io

✉ 1-111 residence Evariste Galois Avenue Paul Langevin, Villeneuve d'Ascq 59650

## EXPERIENCE

### PHD Researcher

**Spirals Team, Inria**

📅 2018 – Present

📍 Lille, France

#### Energy Measurement :

- Proposed a new approach for testing energy consumption of server programs
- Developed a tool to measure energy consumption of Linux Programs
- Developed a library to measure energy consumption of Python code
- Built an extension to measure energy consumption for C
- Developed a library to spot energy hotspots in Python Programs

#### Software optimisation :

- Reduced energy consumption of Python Programs up to **30%** by selecting the most suitable interpreter and adding JIT compiler
- Proposed a tool to pick the most suitable JVM that reduce energy consumption of JAVA Programs up to **25%**
- Reduced energy consumption of JAVA programs up to **30%** by adjusting configuration of the Garbage Collector

#### Programming Languages :

- Developed a framework to benchmark energy consumption of each RPC Protocol
- Studied energy footprints of **780+** web frameworks in **40+** programming languages

### Intern

**LMCS Laboratory**

📅 2016 – 2017

📍 ALgeirs, Algeria

- Proposed a new learning method based on binary trees
- Developed a platform to track Students' skills Progress (Django)
- Developed a Simulator for Electrical Circuits that include all the basic Components plus modulation System ( JavaScript )

#### Product :

**Circuit Maze :** Platform to teach fundamentals of electronics to BCs students using gamification approach ( *Django, AngularJs, Js* )

### Co-founder CTO

**Funecs**

📅 2014 – 2018

📍 ALgeirs, Algeria

- 1st Algerian startup for advergames
- Designed the concept and Prototyped 5+ games

## EDUCATION

### Ph.D. Computer Science

**University of lille**

📅 2018-Present

Thesis title: Green Coding

### Engineering & M.Sc. in Computer Sciences

**Ecole National Supérieur d'informatique (ESI)**

📅 2011 – 2017

### Training

**MIT business summer school**

📅 Jun 2015 – Aug 2015

Training about startup creation and management

## OPEN SOURCE CONTRIBUTIONS

### Pyjoules

[github.com/powerapi-ng/pyJoules](https://github.com/powerapi-ng/pyJoules)

- Python tool to measure energy consumption of Python code (Python)

### JouleIT

[github.com/powerapi-ng/jouleit](https://github.com/powerapi-ng/jouleit)

- Shell Script to measure energy consumption of different programs (Bash)

### JRefferal

[github.com/chakib-belgaid/jreferral](https://github.com/chakib-belgaid/jreferral)

- Tool that recommends the most performant or energy saving JVM implementation for java programs (Bash, Python)

### IJoules

[github.com/chakib-belgaid/IJoules](https://github.com/chakib-belgaid/IJoules)

- Energy measurement tool for MacOS laptops with Intel CPU (Python, C)

## Products :

**GetThe7** : Mobile game to teach math for elementary school pupils ( Unity3D, C#)

**AquaRings** : Mobile game for Ooredoo Algeria ( Unity3D, C#)

## Partner

### Ooredoo

📅 mars 2015 – 2016

📍 ALgeirs, Algeria

- Developed a serious game for Ooredoo (the 1st mobile operator in Algeria)
- Brought **200000** customers to their 3G offer by organizing a mobile game contest around the country

## Microsoft Student Partner

### Microsoft

📅 2013 – 2017

📍 Algeirs, Algeria

- Participated in 15+ devcamps
- Taught university students C#, and .Net Framework

## Products :

**Renati** : Software for binarisation and cleaning the historical scripts (WPF, C#, Matlab DLL)

**Hestia** : Embedded system to make regular house interactive with Cortana commands ( Arduino, WindowsPhone)

## LEADERSHIP

- Conducted workshops about .net technology and C#
- Managed a startup of 7+ employees with 2 interns
- Conducted workshops about continuous integration for high-school teachers
- Taught Parallel programming for master students
- Supervised 4 interns from Bsc to Msc in energy software

## INTERNATIONAL CONFERENCES

- Ournani, Z., **Belgaid, M.C.**, Rouvoy, R., Rust, P., Penhoat, J. and Seinturier, L., 2020, April. Taming energy consumption variations in systems benchmarking. In Proceedings of the ACM/SPEC International Conference on Performance Engineering (pp. 36-47).
- **Belgaid, M.C.**, Ournani, Z., Rouvoy, R., Rust, P. and Penhoat, J., 2021, October. Evaluating the Impact of Java Virtual Machines on Energy Consumption. In 15th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM).

## FrameworkBenchmarks

[github.com/chakib-belgaid/FrameworkBenchmarks](https://github.com/chakib-belgaid/FrameworkBenchmarks)

- Implementation of energy consumption analysis of 780+ web frameworks within 20 different languages

## Energy\_GHZ

[github.com/chakib-belgaid/energy\\_ghz](https://github.com/chakib-belgaid/energy_ghz)

- Adding energy metric to RPC stress engine GHZ

## PyInstruments

[github.com/chakib-belgaid/pyinstrument](https://github.com/chakib-belgaid/pyinstrument)

- Library to generate a Flamegraph and spot energy leaks for Python project

## AWARDS



**Microsoft Imagine Cup**

1st place in Algeria 2015



**National startup competition TStart**

Final Prize winner, Algeria 2014



**Startup Weekkend**

3rd Place in Startup Weekend, Algeirs, 2014

## LANGUAGES

English



French



Arabic

