

CHAKIB BELGAID

PHD Candidate in Computer Sciences

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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 (*JouleIT*, *net-energy*, *measureit*)
- Developed a library to measure energy consumption of Python code (*Pyjoules*, *PyRAPL*)
- Built an extension to measure energy consumption for CI (*Jjoules*)
- Developed a library to spot energy hotspots in Python Programs

For more details check my opensource Contributions

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

📍 Algiers, 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*)

Partner

Ooredoo

📅 mars 2015 – 2016

📍 Algiers, 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

OPEN SOURCE CONTRI-BUTIONS

- [Github.com/powerapi-ng](https://github.com/powerapi-ng)
- [Github.com/chakib-belgaid](https://github.com/chakib-belgaid)

Pyjoules

github.com/powerapi-ng/pyJoules

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

Joulehunter

github.com/powerapi-ng/joulehunter

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

JRefferal

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

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

FrameworkBenchmarks

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

- Adding energy metric to RPC stress engine GHZ

JouleIT

github.com/powerapi-ng/jouleit

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

EXPERIENCE

Co-founder CTO

Funecs

📅 2014 – 2018

📍 Algiers, Algeria

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

Products :

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

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

Microsoft Student Partner

Microsoft

📅 2013 – 2017

📍 Algiers, 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 5 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).

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

Software Engineering

Training

MIT business summer school

📅 Jun 2015 – Aug 2015

global startup lab of Massachusetts university

AWARDS



Microsoft Imagine Cup

1st place in Algeria 2015



National startup competition TStart

Final Prize winner, Algeria 2014



Startup Weekend

3rd Place in Startup Weekend, Algiers, 2014

LANGUAGES

English



French



Arabic

