CHAKIB BELGAID

PHD Candidate in Computer Science

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chakib-belgaid | chakib-belgaid

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 CI
- 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**

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Engineering & M.Sc. in Computer Sciences
Ecole National Supperieur d'informatique (ESI)

📅 2011 – 2017

Software Engineering

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Training
MIT business summer school

📅 Jun 2015 – Aug 2015

globabl startup lab of Massachusetts university

OPEN SOURCE CONTRIBUTIONS

Pyjoules
github.com/powerapi-ng/pyJoules

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

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JouleIT
github.com/powerapi-ng/jouleit

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

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JRefferal
github.com/chakib-belgaid/jreferral

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

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IJoules
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+ employes 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

- 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

PyInstruments
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 Weekeend**
3rd Place in Startup Weekend,**Algeirs**, 2014

LANGUAGES

English ●●●●◐

French ●●●●◐

Arabic ●●●●●