Djob Mvondo
3rd Year Ph.D. Student

Personal Data

Place and Date of Birth:	Cameroun | 31 March 1998 | 22 years
Address:	3 Avenue Albert Einstein, Villeurbanne, France
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Email:	mvondodb@univ-grenoble-alpes.fr
Website:	djobiii2078.github.io
Research Team:	ERODS, LIG Laboratory, France
Research Interests:	♦ Operating System
	♦ Performance
	♦ Resource Usage
	♦ Fault Tolerance

Education

Mar 2018 *Early 2021*	Doctoral Degree at **University of Grenoble Alpes**, Grenoble, France Title : *Performance optimization in virtualized environments* Virtualization is the cornerstone of cloud computing platforms. It relies on a low-level kernel called the *hypervisor(e.g. Xen)* which allows the execution of several *virtual machines (VM)* on a physical machine. Our goal is to develop mechanisms to mitigate several issues related to virtualized infrastructures for efficient *resource utilization, better performance, and more resilient systems.* Supervised by : Prof. Noel De Palma and Prof. Alain Tchana
Sep 2011-Sep 2017	Master degree in Computer Science Received at the **National Advanced School of Engineering**, Yaoundé, Cameroon
Aug 2011	G.C.E Advanced Level at Yaoundé, Cameroun Received at **Pi and Ju International Anglo-saxon College**.

Professional Experience

Mar 2017 **Sep 2017**	Research Internship **IRIT (Institut de Recherche en Informatique de Toulouse)**, Toulouse, France Our goal was to revisit the design of type I hypervisors such as Xen in order to propose a scheme for dynamic resource allocation (cpu+memory) for a central component which we refered as the privileged virtual machine (pVM). Furthermore, our design had to take in account novel memory architectures such as NUMA (non-uniform memory architecture) where a distance dimension renders allocation more tricky. Advisors: Prof. Daniel Hagimont, Prof. Alain Tchana, and Ass. Prof Boris Teabe
Sep 2016 **Mar 2017**	L1 and L2 Teaching **ENSP**, Yaoundé, Cameroun I gave courses of **Operation System** to L1 students during the first semester of 2016-2017. I also gave practical courses of **Object Oriented Programming and IHM (Interface Homme Machine)** to L1 and L2 students respectively during the same semester. Referees: Dr. Batchakui Bernabé and Ing. Moubitang
May 2016	Student Volunteer **ENSP**, Yaoundé, Cameroun

As a student volunteer, I participated in the set up of the logistic for the symposium organized on the theme "L'apport du Cloud et du Big Data dans l'économie numérique" at ENSP.. It lasted 7 days from 14-21 May 2016.
Referees: Prof. Alain TCHANA

JUL 2015
OCT 2016

Trainee Internship
LIRIMA (Laboratoire International de Recherche en Informatique et Mathématiques Appliquées), Yaoundé, Cameroun

This work was a result of a collaboration between the **University of Yaoundé I** and **Ecole Polytechnique Fédérale de Lausanne (EPFL)** under the **RESCIF** banner. The idea was to design and develop a caching system in order to speed up critical media resources load time for online courses. This enabled students to access these courses despite the low network throughput. The system is currently deployed at the **National School of Engineering of Yaoundé and Institut National Polytechnique Félix Houphouët-Boigny (INP-HB) of Yamoussoukro in Ivory-Coast.**

Advisors: Dr. Batchakui BERNABÉ

JUL 2015
SEP 2015

Trainee Internship
Ministry of Defense, Yaoundé, Cameroun

We developed a software to enable army instructors to deliver media resources for a course exploitable by military members and track the progress of each member for a given course. The software named **HELIOS** is currently deployed and used at a military unit carrying the same name **HELIOS**.

Advisors: Ing. Moubitang

TEACHING & MENTORING ACTIVITY

TEACHING

♦ **Distributed Systems**, ENS Lyon, France
Teaching Assistant with Eddy Caron
I designed the practical courses for Distributed Systems 2019/2020 and accompanied the students during the practical sessions.

♦ **ACM**, ENS Lyon, France
Teaching Assistant with Bao Bui & Eric Thierry
This course prepares students for programming contests such as the ACM Programming Contest. We (I, Bao Bui and Eric Thierry) accompanied the students through various programming exercises on Online Judge.

GRADUATE STUDENT MENTORING

♦ **Lucien Arnaud**, currently Ph.D. at the University of Picardie Jules Vernes, France.
Technical Supervisor during his Master Internship (Mar-Sep 2020) at LIP, ENS Lyon, France.

♦ **Kevin Nguetchouang**, currently Ph.D. at ENS Lyon, France.
Technical Supervisor during his Master Internship (Mar-Sep 2020) at LIP, ENS Lyon, France.

♦ **Kouam Djuigne Josiane**, currently Ph.D. at Inria, Paris-Saclay, France.
Technical Supervisor during her Master Internship (May-Sep 2019) at I3S, Nice, France.

♦ **Stella Bitchebe**, currently Ph.D. at I3S, Nice, France
Technical Supervisor during her Master Internship (Mar-Sep 2018) at IRIT, Toulouse, France.

♦ **Yuhala Peterson**, currently Ph.D. at IUN, Neuchatel, Suisse
Technical Supervisor during his Master Internship (Mar-Sep 2018) at IRIT, Toulouse, France.

Research Activity

International Publications

For the conference rankings, I used the 2019 Australian Ranking (http://portal.core.edu.au/conf-ranks/) which ranks conferences and journals with A*, A, B and C.

♦ **Fine-Grained Fault Tolerance For Resilient Virtual Machine Monitors**
Djob Mvondo, Alain Tchana, Renaud Lachaize, Daniel Hagimont, Noel De Palma
To be published in proceedings of IEEE/IFIP International Conference on Dependable Systems and Networks
DSN 2020 - Rank A

♦ **Closer: A new design principle for the privileged virtual machine OS**
Djob Mvondo, Boris Teabe, Alain Tchana, Daniel Hagimont, Noel De Palma
In proceedings of IEEE International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems
MASCOTS 2019 - Rank A

♦ **Memory flipping: a threat to NUMA virtual machines in the Cloud**
Djob Mvondo, Boris Teabe, Alain Tchana, Daniel Hagimont, Noel De Palma
In proceedings of IEEE International Conference on Computer Communications
INFOCOM 2019 - Rank A*

♦ **When eXtended Para - Virtualization (XPV) Meets NUMA**
Vo Quoc Bao Bui, **Djob Mvondo**, Boris Teabe, Kevin Jiokeng, Patrick Lavoisier Wapet, Alain Tchana, Gaël Thomas, Daniel Hagimont, Gilles Muller, Noel De Palma
In proceedings of European Conference on Computer Systems
Eurosys 2019 - Rank A

National Publications

♦ **FaaSCache: Système de Cache mémoire opportuniste et sans surcoût**
Kevin Nguetchouang, Lucien Ngale, Stephane Pouget, **Djob Mvondo**, Mathieu Bacou, Renaud Lachaize
Journées Cloud 2020

♦ **Memory Flipping: How NUMA affects virtual machines ?**
Djob Mvondo, Boris Teabe, Daniel Hagimont, Noel De Palma
COMPAS 2018

♦ **SGX Performance Improvement Using A Smart Function Colocation Algorithm**
Eric Mugnier, **Barbe Thystère Mvondo Djob** and Alain Tchana
COMPAS 2019

♦ **Hardware Assisted Virtual Machine Page Tracking**
Stella Bitchebe, **Djob Mvondo**, Alain Tchana, Laurent Réveillère, Noel De Palma
COMPAS 2019

Talks & Sojourns

♦ **29 Jun - 02 July 2020** | DSN 2020, Online via Microsoft Teams
Fine-Grained Fault Tolerance For Resilient Virtual Machine Monitors

- ♦ **12 Feb 2020** | Grascomp-Eurosys joint Workshop 2020, Brussels, Belgium
  FaasCache - Speeding up Function As A Service Execution Times

- ♦ **22-25 Oct 2019** | Mascots 2019, Rennes, France
  Closer: A new design principle for the privileged virtual machine OS

- ♦ **30 Apr - 02 May 2019** | Infocom 2019, Paris, France
  Memory Flipping: a threat to NUMA virtual machine in the Cloud

- ♦ **25-28 Mar 2019** | Eurosys 2019, Dresden, Germany

- ♦ **04-08 Feb 2019** | GDR/ASF Winter School 2019, Pleynet-Sept Laux, France
  Memory Flipping: a threat to NUMA virtual machine in the Cloud

- ♦ **03-06 Jul 2018** | Compas 2018, Toulouse, France
  Memory Flipping: How NUMA affects virtual machines ?

Mobility & Collaborations

- ♦ **Nov 2019 - Dec 2020** at *Lyon, France:* Research mission within the AVALON team of the LIP laboratory at ENS LYON.

- ♦ **Oct 2018 - Oct 2019** at *Nice, France:* Research mission within the Computer Science, Signal, and Systems laboratory in Sophia Antipolis.

- ♦ **Nov 2018** at *Grenoble, France* : Seminar within the LIG lab at Grenoble.

- ♦ **Apr 2018 - May 2018** at *Grenoble, France*: Research seminar within the LIG lab at Grenoble.

- ♦ **Mar 2017 - Sep 2017** at *Toulouse, France*: Master Internship result of a partnership between ENSP and IRIT lab in Toulouse.

Posters

- ♦ **Type I vs Type II hypervisors. Let's End this !**
  Djob Mvondo, Alain Tchana, Noël De Palma.
  GDR RSD 2020

- ♦ **Hardware Assisted Virtual Machine Page Tracking**
  Stella Bitchebe, **Djob Mvondo**, Alain Tchana, Laurent Réveillère, Noel De Palma
  Compas 2019

- ♦ **When eXtended Para-Virtualization (XPV) Meets NUMA**
  Bao Bui, **Djob Mvondo**, Boris Teabe, Kevin Jiokeng, Lavoisier Wapet, Alain Tchana, Gaël Thomas, Daniel Hagimont, Gilles Muller, Noel DePalma
  Eurosys 2019

- ♦ **Memory Flipping: How NUMA affects virtual machines ?**
  Djob Mvondo, Boris Teabe, Daniel Hagimont, Noel De Palma
  Compas 2018

Grants

- ♦ Student Travel Grant, ASPLOS 2020.

Services to the Community

- ♦ Session chair for Session 5 for Journées Cloud 2020 conference.

- ♦ Artifact Evaluation Committee OSDI 2020

- ♦ Member of the Social Media Team for Eurosys 2021, alongside:
  Kostis Kaffes, Iacovos G. Kolokasis, and Vijay Chidambaram (*Publicity Chair for Eurosys'21*)

- ♦ Student Volunteer for the organization of the "Journées Cloud 2020" at Lyon
  Website designer with Stella Bitchebe : https://journeescloud20.sciencesconf.org/

- ♦ Shadow PC for the 2020 European Conference on Computer Systems (Eurosys 2020)

- ♦ Sub-Reviewer for the 2019 IEEE International Conference on Big Data (IEEE BigData 2019)
  Main Reviewer : Noel DePalma

- ♦ Sub-Reviewer for the CRI'19 Conference
  Main Reviewer : Alain Tchana

- ♦ Student Volunteer for the organization of the Compas 2018 Conference at Toulouse

PERSONAL EXPERIMENTS

- ♦ Representative of non-permanent staff at the LIP laboratory for two months (Oct. - Dec. 2020), ENS Lyon, France.

- ♦ Co-organiser alongside Kevin Jiokeng and Kouam Josiane of the **JOURNÉE RETOUR D'EXPÉRIENCE 2020** at Polytechnique Yaoundé, Cameroon.
  https://sites.google.com/view/retourxpenspygi2020/accueil.

- ♦ Organiser of the **JOURNÉE RETOUR D'EXPÉRIENCE 2018** at Polytechnique Yaoundé, Cameroun. https://sites.google.com/view/retour-dexperience-2018/accueil

- ♦ Co-founder of **louma-jobs.com, louma-concours.com & concoursinfo.com**

- ♦ Design Director of **IGamers Cameroun**. http://tiny.cc/y3muhz

- ♦ Webmaster of informatique-sans-frontiere.org/

CERTIFICATIONS

Apr 2019	Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning by **deeplearning.ai** on Coursera http://tiny.cc/4otrbz
Feb 2019	Google Cloud Platform Fundamentals: Core Infrastructure by **Google Cloud** on Coursera http://tiny.cc/3qtrbz
Jan 2018	Getting Started with Kubernetes Engine by **Google Cloud** on Coursera https://goo.gl/5U67rp
Dec 2017	Google Cloud Platform Fundamentals for AWS Professionals by **Google Cloud** on Coursera https://goo.gl/6C2r9J
Dec 2017	Responsive Website Basics: Code with HTML, CSS, and Javascript by **University of London & Goldsmith** on Coursera https://goo.gl/6C2r9J
Dec 2017	Machine Learning by **Stanford University** https://goo.gl/6C2r9J

INTERESTS

Technology, Open-Source, Programming
Paradoxes in Decision Making, Behavioural Finance
Football, and Video Games