

Professional Experiences

- April 2022 - Present** **Internet Initiative Japan Inc., IIJ Research Laboratory**
Tokyo, Japan *JSPS Postdoctoral Researcher*
* Cloud, Data plane programmability, Machine Learning
- September 2021 - March 2022** **Laboratoire d'Analyse et d'Architecture des Systèmes (LAAS-CNRS)**
Toulouse, France *Postdoctoral Researcher*
* Cloud Computing, Machine Learning, SDN
- October 2017 - August 2021** **Laboratoire d'Analyse et d'Architecture des Systèmes (LAAS-CNRS)**
Toulouse, France *Computer Science Researcher*
* Study, Design, and Implementation of Novel Low-Overhead SDN Monitoring Solutions
* Study and Design of ML-based smart switch buffer management in Datacenter environments
* Mininet and NS-3 Simulations (Developments and Experiments) and Datasets Construction
* Internship Supervision: Two Research Engineers (M2) and An M1 Intern
- August - September 2019** **IIJ Innovation Institute**
Tokyo, Japan *Visiting Researcher*
* Advisor : Marc BRUYERE
- March - August 2017** **Laboratoire d'Analyse et d'Architecture des Systèmes (LAAS-CNRS)**
Toulouse, France *Engineering Intern*
* Implementation of a Software Defined Wireless Multi-hop Networking (SDWMN) Platform

Teaching

- September 2020 - August 2021** **INSA Toulouse**
Toulouse, France *Teaching Assistant (ATER)*
* Programming, OS, UNIX, Networking, Socket Programming, Openstack, Docker
- October 2017 - August 2020** **Université Paul Sabatier**
Toulouse, France *Teaching Assistant*
* Computer Networks, Information Theory, Programming

Education

- 2017 - 2021** **Université Paul Sabatier - University of Toulouse**
Toulouse, France *Ph.D. in Computer Science, Defended on July 12, 2021*
* Dissertation : Towards ML-based Management of Software-Defined Networks ([Link](#))
* Advisor : Yann LABIT
* Thesis Reviewers (Rapporteurs) : Abdelhamid MELLOUK, Anne FLADENMULLER
* Committee Members : Véronique VEQUE, Toufik AHMED, Pascal BERTHOU, Marc BRUYERE
* Keywords: SDN, Network management, Monitoring, Datacenters, Machine Learning, Performance Optimization, Self-Driving Networks
- 2012 - 2017** **Ecole Nationale des Sciences Appliquées de Khouribga (ENSA)**
Khouribga, Morocco *Engineer Degree in Computer Science – Networking and Telecommunications*

Certification and Summer School

- 2018** **Machine Learning by Stanford University on Coursera**
Certificate earned at Sunday, June 3, 2018 2:16 PM GMT ([Certificate link](#))
- 2018** **ResCom 2018: Data science, Network Science and Machine Learning**
Porquerolles, 18 - 22 June 2018

Awards and Grants

- 2021** IEEE ICIN 2021 Best Paper Award ([Link](#))
- 2021** JSPS Postdoctoral Fellowship 2021
- 2020** Travel Grant ACM SOSR 2020
- 2019** International PhD Mobility Grant – Ecole Doctorale Systèmes (EDSYS)

- 2017 Ph.D. fellowship from French government (2017 - 2020)
2012 5 years Engineering Study Scholarship from Moroccan Agency for International Cooperation

Skills

Programming languages	Python, C, C++, P4, R, Julia, Matlab
Networking	SDN, Data center networking, OpenFlow, OpenVSwitch, Ryu, Mininet, NS3
Machine Learning	Scikit-learn, Keras, Tensorflow, Pytorch, Gym
Other Skills	Time Series, KVM, Docker, Kubernetes, OpenStack, Ansible
Languages	French (First Language), English (Fluent)

Publications

Journal

- 2022 **ML-based Performance Modeling in SDN-enabled Data Center Networks**
Kokouvi Benoit Nougnanke, Yann Labit, Marc Bruyère, Simone Ferlin, Ulrich Aïvodji
IEEE Transactions on Network and Service Management (TNSM), 2022

Conferences

- 2021 **ML-Based Incast Performance Optimization in Software-Defined Data Centers**
Kokouvi Benoit Nougnanke, Yann Labit, Marc Bruyère
22nd International Conference on High-Performance Switching and Routing (IEEE HPSR 2021), 7-10 June 2021. Paris, France.
- 2021 **Learning-based Incast Performance Inference in Software-Defined Data Centers**
Kokouvi Benoit Nougnanke, Yann Labit, Marc Bruyère, Simone Ferlin, Ulrich Aïvodji
24th Conference on Innovation in Clouds, Internet and Networks (ICIN 2021), March 01-04, 2021, Paris, France. **Best Paper Award**
- 2020 **Low-Overhead Near-Real-Time Flow Statistics Collection in SDN**
Kokouvi Benoit Nougnanke, Marc Bruyère, Yann Labit
IEEE NNetSoft Conference on Network Softwarization 29 June-3 July 2020, Virtual Conference
- 2020 **Novel Adaptive Data Collection based on a Confidence Index for Continuous Monitoring in SDN**
Kokouvi Benoit Nougnanke, Yann LABIT
IEEE 17th Consumer Communications & Networking Conference (CCNC 2020), Las Vegas, USA
- 2017 **A Generic And Configurable Topology Discovery Service For Software Defined Wireless Multi-Hop Network**
Lunde Chen, Slim Abdellatif, Pascal Berthou, Kokouvi Benoît Nougnanke, Thierry Gayraud
15th ACM International Symposium on Mobility Management and Wireless Access, Miami, FL, USA, November 21 - 25, 2017

Posters

- 2020 **Low-Cost Near-Real-Time Counters Collection in SDN**
Kokouvi Benoit Nougnanke, Marc Bruyère, Yann Labit, ACM SOSR 2020
- 2018 **Control Messages Optimization in SDN**
Kokouvi Benoit Nougnanke and Yann Labit, SDN DAY 2018, Paris, France

Presentations

- 2020 **BSFQ: Buffer Sizing and Fair Queuing to Rescue TCP Incast**
SARA Meeting, Toulouse, France
- 2019 **Novel Adaptive Data Collection based on a Confidence Index for Continuous Monitoring in SDN Environments**
IIJ Innovation Institute Summer Camp, Laforet Club Hakone Gora, Japan
- 2019 **Novel Adaptive Data Collection based on a Confidence Index for Continuous Monitoring in SDN Environments**
STORE - ENSEEIHT, Toulouse, France

Interests

Football, Music, Photography