Zeina Houmani

Doctoral Researcher in Computer Science

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Ph.D. candidate with over 4 years of experience in service-oriented/Microservice architectures and data-driven systems management. I have strong oral and writing communication skills developed from extensive experience in writing and presenting my work at conferences and meetings in France and the United States. I have the ability to work independently or as part of a team.

Research interests are broadly in the area of Distributed Systems. The current research focus during my Ph.D. is on Microservices Architectures, Computing Continuum, and Deep Learning.

Education

2018-present — **Ph.D. degree in computer science**
LIP laboratory, Ecole Normale Superieure de Lyon (ENS de Lyon), Lyon, France.
Title: Data-driven Management Solution for Microservice-based Deep Learning applications.

2017-2018 — **Master 2 degree in computer science**
Claude Bernard University Lyon 1, Lyon, France.
Title: Systems, Networks, and virtual infrastructures (SRIV).

2016-2017 — **Master 1 degree in computer science**
Lebanese University Faculty of Sciences, Nabatieh, Lebanon.

2013-2016 — **Bachelor degree in computer science**
Lebanese University Faculty of Sciences, Nabatieh, Lebanon.

Work experience

2021 — **Invited speaker** in a Master 2 course at the Ecole Normale Superieure de Lyon.
Course title: “Large scale sustainable distributed resource management”.

2018-2021 — **Doctoral Researcher at Ecole Normale Superieure de Lyon**.
- ➔ Designed a system that relies on data-driven approaches for managing Deep Learning applications in the Edge-to-Cloud continuum.
- ➔ Developed and evaluated the system on a real testbed using several technologies.
- ➔ Successfully published articles in international and local conferences.

2019-2020 — **International Visiting Research Student at Rutgers University, USA.**
- ➔ Worked in the Rutgers Discovery Informatics Institute (RDI2).
- ➔ Presented my work several times to the RDI2 team.

2017-2018 — **Intern at Ecole Normale Superieure de Lyon.**
Internship title: Study and design of a data-driven mechanism for the discovery of Microservices.

Certifications

- **LinkedIn Certifications:**
  - **2021**: - "Microservices Foundations" by Frank P Moley III
    - "Kubernetes: Microservices" by Karthik Gaekwad
    - "Introduction to Data Science" by Lavanya Vijayan
- **CISCO, Networking Academy – CCNA Exploration**
  - **2015***:* CCNA level 1
  - **2018**: CCNA level 2

Skills

- Platforms/Softwares/Frameworks: Docker, Kubernetes, Istio service mesh, E2Clab (https://team.inria.fr/kerdata/e2clab/), Prometheus, MySQL, Spring Boot framework, latex, and Microsoft office suite.
- Programming languages used often: Python, Java, and shell. Other languages: C, PHP, SQL, C++, C#, and Javascript.
- Computer systems: Microsoft and Linux.
- Experienced in using the Grid'5000 large-scale French testbed (https://www.grid5000.fr).
- Willing to learn new technologies.
- Write papers in French and English.
- Emotionally Intelligent, Self-disciplined, Detail-oriented, and a team player who can also work independently.

Publications and conferences

Papers accepted in international conferences:

- **Zeina Houmani**, Daniel Balouek-Thomert, Eddy Caron, and Manish Parashar. "Enabling microservices management for Deep Learning applications across the Edge-Cloud Continuum". In the 33rd IEEE International Symposium on Computer Architecture and High-Performance Computing (SBAC-PAD'21). Belo Horizonte, Brazil, October 2021. (https://hal.inria.fr/hal-03409405).
- **Zeina Houmani,** Daniel Balouek-Thomert, Eddy Caron, and Manish Parashar. "Enhancing microservices architectures using data-driven service discovery and QoS guarantees". In the 20th IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CCGrid'20). Melbourne, Australia, May 2020, pp. 290-299. (DOI**:** 10.1109/CCGrid49817.2020.00-64)

Papers accepted in national French conferences:

- **Zeina Houmani**. "Déploiement et validation d'une architecture microservices pour la découverte de services pilotée par les données". In the Conférence d'informatique en Parallélisme, Architecture et Système (COMPAS'19). Anglet, France, juin 2019. [Conference without proceedings]
- Eddy Caron, and **Zeina Houmani**. "Architecture Microservices pilotée par les données". In the Conférence francophone sur les Architectures Logicielles (CAL'18). Grenoble, France, Juin 2018. (https://hal.inria.fr/hal-01808758).

Languages

French and English: Full professional proficiency

Arabic: Native

Hobbies

I enjoy listening to music, watching movies, and playing sports.