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UiT profile
I am 29 years old

Loïc GUEGAN

Postdoc at UiT The Arctic University of Norway

Education

- 2021 **PhD in Computer Science**, *École Normale Supérieure*, Rennes, France
Title: Scalable end-to-end models for the time and energy performance of Fog infrastructures.
Summary: Working on wired, wireless and energy models for large-scale flow-based network simulations. The goal is to provide efficient simulations for studying large-scale networks starting from the cloud to the edge.
- 2017 **Master's degree in Software Engineering**, *Université de Rennes 1*, Rennes, France
- 2015 **Bachelor's degree in Computer Science**, *Université de La Réunion*, Saint-Denis, La Réunion

Current Position

- Position Postdoc at UiT The Arctic University of Norway since May 2021
- Supervisors Issam Raïs, Otto Anshus
- Description Working on the simulation of Cyber-Physical Systems and Distributed Systems. The aim is to simplify and improve the research on the monitoring of the Arctic Tundra (and distributed systems more generally) by providing simulation frameworks to computer scientists.

Internships

- 2019 **Intel DVFS performance prediction**, *Northeastern University*, Boston, 3 months
Working on the Intel RAPL driver of the Linux Kernel and trying to predict the CPU performance under power-capping.
- 2017 **LoRa geolocation**, *French Research Institute for Exploitation of the Sea*, Reunion island
6 months internship in collaboration with the University Institutes of Technology of Reunion Island on LoRa radio beacon geolocation for sea turtles geolocation. Working on trilateration algorithms and Matlab simulations. Built 3 LoRa prototypes based on Raspberry pi board.
- 2016 **Raspberry Pi based autonomous terminal**, *Dystri-Éducation*, Rennes, 3 months

Publications

Conferences

- 2022 **A flow-level Wi-Fi model for large scale network simulation**, *MSWIM 2022*, Montreal, Canada
Clément Courageux-Sudan, Loïc Guegan, Anne-Cécile Orgerie and Martin Quinson

- 2022 **Impact of loosely coupled data dissemination policies for resource challenged environments**, *CCGrid 2022*, Taormina, Italy
Issam Raïs, Loic Guegan and Otto Anshus
- 2022 **LoRaLitE: LoRa protocol for Energy-Limited environments**, *MASCOTS 2022*, Nice, France
Lukasz Sergiusz Michalik, Loic Guegan, Issam Raïs, Otto Anshus and John Markus Bjørndalen
- 2019 **A Large-Scale Wired Network Energy Model for Flow-Level Simulations**, *AINA 2019*, Matsue, Japan
Loic Guegan, Betsegaw Lemma Amersho, Anne-Cécile Orgerie and Martin Quinson
- 2019 **Estimating the end-to-end energy consumption of low-bandwidth IoT applications for WiFi devices**, *CloudCom 2019*, Sydney, Australia
Loic Guegan and Anne-Cécile Orgerie
- 2017 **Why satellite localization beacons are not adapted for marine turtles' study: a sea wireless sensors network solution**, *GIIS 2017*, Saint-Pierre, La Réunion
Nour Mohammad Murad, Loic Guegan and Sylvain Bonhommeau
- 2017 **Integrating Over Sea Radio Channel for Sea Turtles Localization in the Indian Ocean**, *IEEE Radio 2017*, Cape Town, South Africa
Loic Guegan, Nour Mohammad Murad, Jean-Michael Lebreton and Sylvain Bonhommeau

Teaching

- 2022-2023 **Parallel Programming**, Master 1st year
Preparing assignments, preparing and performing the lecture on MPI
- 2019-2020 **Network Engineering**, Master 1st year, 16 hours
VLAN, DHCP, NAT, STP, Cisco routers/switches
- 2019-2020 **Cooperation and concurrency in computer systems and network**, Master 1st year, 32 hours
Java, multithreading, synchronisation mechanisms, OOP
- 2018-2019 **Functional and Immutable Programming**, Bachelor 1st year, 32 hours
Scala, algebraic data type, high order, recursion
- 2018-2019 **Computer Architecture**, Bachelor 3rd year, 32 hours
Logical circuits, ISA, process management, I/O, memory management, file system and assembly
- 2017-2018 **Linux System Programming**, Bachelor 3rd year, 30 hours
C, system calls, sockets, shared memory, cache management

Advising

Co-Advisor

- 2022-2023 **Network Simulation of the Distributed Arctic Observatory**, *Erik Amandus Heggeli*, Master Student
- 2022 **Characteristics and architectures of scientific test-beds**, *Maxime Bruno*, Master Student

Scientific Responsibilities

Scientific Reviews

- 2022 ICCS
- 2020 IEEE ISCC
- 2019 Elsevier, Journal of Computational Design and Engineering
- 2019 Euro-Par

Other Activities

- 2018-2020 Elected member of the Irisa laboratory council from 2018.11.15 to 2020.11.30
2019 Volunteer at the "Informatique débrancher". The aim is to introduce Computer Science to schoolboys

Talks

- 2021 Seminar at aneo.eu about network simulation
2019 [XUG](#) (eXperimental User Group) at IRISA Rennes France the 2019-02-28

References

Names

Issam Raïs
Otto Anshus
Martin Quinson
Anne-Cécile Orgerie

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Position

Associate Professor at UiT
Full professor at UiT
Full professor at ENS Rennes
Research scientist at CNRS