

Thomas Bouvier

PhD candidate @ KerData team
Univ Rennes, CNRS, Inria, IRISA

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French

Education

- Today **PhD student**, *Univ Rennes, CNRS, Inria, IRISA*, Rennes, France.
- Jan 2021 Distributed deep learning, continual learning, stream processing, big data analytics.
Supervisors : Alexandru Costan & Gabriel Antoniu from team KerData.
Argonne National Laboratory (ANL), summer student appointment as a research aide in Chicago (United States), distributed continual learning. Mentored by Bogdan Nicolae.
- 2019 **Engineering student**, *Institut National des Sciences Appliquées (INSA)*, Rennes, France.
- 2014 Specialized in Electronics and Computer Engineering.
Blekinge Institute of Technology (BTH), winter semester 2018 in Karlskrona (Sweden), applied artificial intelligence and machine learning.

Experience

- 2020 **Inria**, *Data engineer*, Rennes, France.
Development and documentation of KerAnalytics, a unified framework for data storage and real-time processing.
C++, Java, Docker.
- Jul 2019 **Snips (acquired by Sonos)**, *Software engineer intern*, Paris, France.
- Jan 2019 Development and testing of voice applications. Definition of voice interaction flows, improvement of language models. Development of a web application to facilitate the installation and configuration of the Snips platform, typically installed on edge nodes. Node.js, TypeScript, React.
- Aug 2018 **Thales**, *Software engineer intern*, Paris, France.
- May 2018 Development of a real-time spectral analysis feature embedded into a modem product. Definition of input/output flows, integration on a DSP target and development of the desktop UI. C, C++, Qt.

Publications

Conference papers

- May 2024 **Efficient Data-Parallel Continual Learning with Asynchronous Distributed Rehearsal Buffers**, *ACM/IEEE CCGrid 2024*, Philadelphia, United States.
Authors : Thomas Bouvier, Bogdan Nicolae, Hugo Chaugier, Alexandru Costan, Ian Foster, Gabriel Antoniu.
- May 2021 **Heterogeneity-aware Deep Learning Workload Deployments on the Computing Continuum**, *IEEE IPDPS 2021, PhD forum*, Portland / Virtual, United States.
Authors : Thomas Bouvier, Alexandru Costan, Gabriel Antoniu.

Duties

Reviews

I have reviewed 10+ papers for IEEE IPDPS, ACM/IEEE CCGrid, ACM/IEEE Supercomputing, IEEE Big Data, ACM HPDC, Springer Computing journal.

Teaching & science communication

- Jan 2024 **University of Rennes**, *Lecturer*.
- Sept 2021 Stream Processing 12 hours (practical sessions), Masters
Databases 30 hours (lectures and practical sessions), Masters
Stream Processing 12 hours (lectures and practical sessions), Masters
Introduction to algorithms 42 hours (lectures and practical sessions), Bachelor
Databases 36 hours (lectures and practical sessions), Bachelor

Today **Climate Fresk**, *Science communicator*.
Mar 2021 The Climate Fresk organizes workshops adapted to all audiences to raise awareness about climate change.

Open source projects

Today **Trouver une Fresque**, *Association*, France.
Dec 2022 Software developer. "Trouver une Fresque" is a search engine listing *Fresk*-like (science communication) workshops in France. 20K+ visitors every month.

Today **CodeCarbon**, *Association*, France.
Jan 2022 Software developer. The aim of the CodeCarbon project is to estimate CO2 emissions of compute-intensive code. Python, MPI.

Dec 2020 **Insapp**, *Association*, Rennes, France.
Sept 2016 Lead software developer in a 4-member team. The aim of the Insapp app is to promote student associations on the campus. Development of the REST API, backend, administration interface and Android client. Go, Kotlin, MongoDB, Docker.

Skills

Computing

System	Linux, Docker, Ansible, Spack	Distributed	MPI, Kafka, Flink, Hadoop, Horovod
Engineering	Data structures, databases and algorithms	Development	C, C++, Java, Python
ML	PyTorch, MLOps, notebooks		

Languages

English	Full proficiency	French	Native speaker
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