Mr Joas Yannick Kinouani

✉ *jkinouan@uccs.edu* (professional)
✉ *joas@joas.blog* (personal)
French (native language)
English (CEFRL B2)
Spanish (CEFRL A2)
ⓘ *https://joas.blog*

Experience

2015-10-12 – 2017-12-18
2 years and 2 months

Research and Development Software Engineer
Netfective Technology
Pessac, France
ⓘ *https://www.bluage.com*

☑ Engage in the European research project DICE (ⓘ *http://www.dice-h2020.eu*): participate in videoconferences and meetings in different cities of Europe; co-write or review reports, research papers, and a book (see publications below); develop a big data application with Apache Cassandra and Apache Spark; test solutions from the project's European partners.
☑ Develop in Python, with the library TensorFlow, a convolutional neural network, and train it to recognise the programming language in which a source file is written.
☑ Write with Xtext context-free grammars in order to parse source files.
☑ Translate, using EMF (Eclipse Modeling Framework), the abstract syntax trees of these source files into the OMG's (Object Management Group) standards ASTM (Abstract Syntax Tree Metamodel) and KDM (Knowledge Discovery Metamodel).
☑ Develop graphical user interfaces based on Eclipse and SWT.

2015-04-01 – 2015-07-31
4 months

Trainee
Supervisors: Prof. Jean-Paul Bodeveix and Dr Mamoun Filali
Computer Science Research Institute of Toulouse (IRIT)
Toulouse, France
ⓘ *https://www.irit.fr*

☑ Certify, using the Coq proof assistant, the mathematical theorems in the research paper *Extending Modal Transition Systems with Structured Labels*, written by Sebastian S. Bauer, Line Juhl et al., and published in 2012 in the journal *Mathematical Structures in Computer Science*.
☑ Show that the proposals of this paper are a particular case of the metatheory of contracts, formalised by Albert Benveniste, Benoît Caillaud et al. in the research report *Contracts for Systems Design*.
☑ Attend seminars organised by the institute.

2015-03-02 – 2015-03-06
1 week

Visiting Student
Oxford Brookes University, Wheatley campus
Wheatley, United Kingdom
ⓘ *https://www.brookes.ac.uk/ecm/research/computing/applied-formal-methods*

☑ Prepare for the visit by familiarising myself with the semantic Web's standards (RDF, OWL, SPARQL, and RIF), and by reading the paper *Transformation of Algebraic Specifcations into Ontological Semantic Descritptions of Web Services*, by Dongmei Liu, Hong Zhu, and Ian Bayley.
☑ Visit the campus library and the laboratory of the research group Applied Formal Methods led by Prof. Hong Zhu.
☑ Attend a seminar.

2014-10-20 – 2014-12-19
2 months

Tutor
University of Bordeaux, Talence-Pessac-Gradignan campus
Talence, France
https://www.u-bordeaux.fr

☑ Organise with other tutors individual lessons for students.

2014-06-16 – 2014-07-30
1 month

Trainee
Supervisors: Associate Prof. Pierre Castéran and Prof. Mohamed Mosbah
Computer Science Research Laboratory of Bordeaux (LaBRI)
Talence, France
https://www.labri.fr

☑ Maintain a Coq library used to simulate and certify distributed algortihms.

2013-04-01 – 2013-05-31
2 months

Trainee
Supervisor: Prof. Jean-Paul Bodeveix
Computer Science Research Institute of Toulouse (IRIT)
Toulouse, France
https://www.irit.fr

☑ Develop in OCaml a software that generates Coq code from the inductive definition of a data type.

Education

Since 2016-07-01

[Online] *Charis Bible College, Distance Education, Online Program*
Charis Bible College
http://www.charisbiblecollege.org/distance-education/online-program

2013-09-02 – 2016-01-08
2 years

European Master of Computer Science, for the purpose of research
Specialisation: Algorithms and Formal Methods
Field of study: Software Verification
University of Bordeaux, Talence-Pessac-Gradignan campus
Talence, France
https://www.u-bordeaux.fr

☑ Model a problem using the following mathematical formalisms: AltaRica constraint automata, Event-B machines, transition systems, two-player games, omega-automata, probabilistic automata, control flow automata, Petri nets, linear-time logic (LTL), and computation tree logic (CTL).
☑ Use a model checker.
☑ Study type systems, whose purpose is to limit errors during the programming phase. Implement the type system described in the research paper *Taming the Wildcards: Combining Definition- and Use-Site Variance*, by John Altidor, Shan Shan Huang, and Yannis Smaragdakis.
☑ Analyse source code.
☑ Use a proof assistant to certify the correctness of a program.

☑ Read and summarise a research paper.
☑ Present a seminar.

☑ Carry out a software development project, from the domain modelling with UML to the writing of the source code. This project consisted in maintaining in C++ a network simulator, by enabling it to simulate the secure protocol for intervehicular communication described in the research paper *Fast and Secure Multihop Broadcast Solutions for Intervehicular Communication*, written by Dr Wafa Ben Jaballah et al.

☑ Reuse design patterns.

2009-09-07 – 2013-12-12
4 years

Bachelor of Computer Science
Field of study: Information Systems Engineering
Toulouse-III-Paul-Sabatier University
Toulouse, France
http://www.univ-tlse3.fr

☑ Program in an assembly (ARM), imperative (C), declarative (OCaml, Prolog), or object-oriented language (Java).
☑ Prove the correctness of an imperative program using Hoare logic or Dijkstra's weakest preconditions.
☑ Prove the correctness of a declarative program using structural induction.
☑ Model databases using the entity-relationship or relational metamodel.
☑ Query database management systems (MySQL, Oracle) with SQL.
☑ Program database procedures in PL/SQL.
☑ Develop Web applications with HTML, CSS, JavaScript, PHP, and MySQL.
☑ Develop graphical user interfaces with Java Swing.
☑ Acquire a good understanding of computers architecture, operating systems, and computer networks.
☑ Study algebra, analysis, physics, and electromagnetism.

2006-09-04 – 2009-06-30
3 years

A levels in Sciences
French High School diploma, Science major
Marcelin Berthelot General and Technological *Lycée*
Toulouse, France
http://marcelin-berthelot.entmip.fr

Publications

2017

Published as research and development software engineer at Netfective Technology:

Introduction. [Online]. In: *Practical DevOps for Big Data*. Available from: *https://en.wikibooks.org/wiki/Practical_DevOps_for_Big_Data/Introduction* [Accessed 2017-12-24].

My contributions to this book chapter, under the username *Jouasse*, are listed *here* [accessed 2017-12-24].

Methodology. [Online]. In: *Practical DevOps for Big Data*. Available from: *https://en.wikibooks.org/wiki/Practical_DevOps_for_Big_Data/Methodology* [Accessed 2017-12-24].

My contributions to this book chapter, under the username *Jouasse*, are listed *here* [accessed 2017-12-24].

Safia Kalwar, Eugenio Gianniti, Joas Yannick Kinouani, Youssef Ridene and Danilo Ardagna. *Performance Degradation and Cost Impact Evaluation of Privacy Preserving Mechanisms in Big Data Systems*. Paper presented at the 7th Workshop of the Italian group on Quantitative Methods in Informatics (InfQ 2017), Venice, Italy, 2017-12-04, unpublished.