HOANG GIA NGUYEN

Researcher and Senior Software Developer

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EXPERIENCE

Researcher - Engineer
CEA - French Alternative Energies and Atomic Energy Commission

📅 2020 – Ongoing   📍 Saclay, France

- Research Projects : E-CORRIDOR H2020 Security Architect, BOOSTER - EIT Manufacturing and DataPI Startup
- Responsibilities : Java Full-stack Developer, DevOps and Cyber Security Researcher
  - Designing and developing algorithms with Homomorphic Encryption
  - Developing and deploying Homomorphic Encryption micro-services
  - Developing and designing core engine, front-end and back-end of first DataPI prototypes
  - Integrating Homomorphic Encryption technology into AI

Researcher - Post-doctorate
INRIA - National Research Institute for Digital Science and Technology

📅 2018 – 2020   📍 Lille, France

- Research Project : Design of Correct-by-Construction Self-Adaptive Cloud Applications Using Formal Methods
- Responsibilities : Researcher and JavaBIP Platform Developer
  - Proposing, designing and developing methods assuring the correction of coordination between cloud applications or micro-services in multi-cloud environment
  - Developing and implementing some BIP models for multi-cloud micro-service network such as auto-deployment, auto-backup, monitoring, etc.

Ph.D. and Internship
Université Sorbonne Paris Nord

📅 2014 – 2015 – 2018   📍 Villetaneuse, France

- Research Project : Efficient Parametric Verification of Parametric Timed Automata
- Responsibilities : Researcher and IMITATOR Platform Developer
  - Proposing, designing and developing new parameter synthesis methods
  - Implementing and optimizing parameter synthesis algorithms and its distributed versions on networks of supercomputer

Teaching
Université Sorbonne Paris Nord and Université Paris Diderot
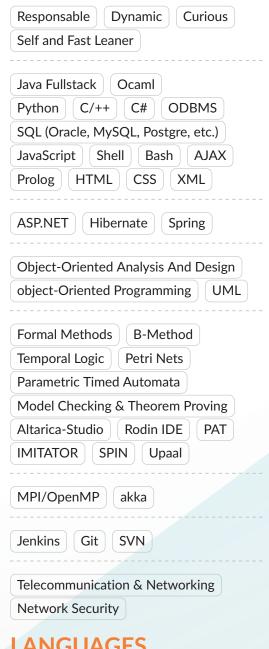
📅 2015 – 2018   📍 Villetaneuse, France

- Université Paris Nord : Telecommunication and Network Application Programming, Database Systems, Networking Foundation
- Université Paris Diderot (Volunteer) : Machine Learning, Natural Language Processing

MY LIFE PHILOSOPHIES

"Less is more &
Practice makes perfect"

SKILLS

Responsable | Dynamic | Curious
Self and Fast Leaner

Java Fullstack | Ocaml
Python | C/++ | C# | ODBMS
SQL (Oracle, MySQL, Postgre, etc.)
JavaScript | Shell | Bash | AJAX
Prolog | HTML | CSS | XML

ASP.NET | Hibernate | Spring

Object-Oriented Analysis And Design
object-Oriented Programming | UML

Formal Methods | B-Method
Temporal Logic | Petri Nets
Parametric Timed Automata
Model Checking & Theorem Proving
Altarica-Studio | Rodin IDE | PAT
IMITATOR | SPIN | Upaal

MPI/OpenMP | akka

Jenkins | Git | SVN

Telecommunication & Networking
Network Security

LANGUAGES

English   ●●●●●●

French   ●●●●●○

Vietnamese   ●●●●●●

EXPERIENCE

Research Member
Systems Analysis and VErification Laboratory (SAVE) - University of Technology of Ho Chi Minh City

📅 2014 – 2015 	📍 Ho Chi Minh, Vietnam

- Responsibility : Researcher
  - Working with SAVE research team in formal methods and AI fields

Software, ERP and E-Commerce Developer
Hoang Cuong Electronic Company

📅 2010 – 2012 	📍 Ho Chi Minh, Vietnam

- Responsibility: Developer (C#, Microsoft SQL, Magento CMS)
  - Developing a Part of the ERP System of the Company

SOFTWARE

IMITATOR
Parameter Synthesis for Real-Time Systems

- https://www.imitator.fr/

JavaBIP
Coordination of concurrent Java components using a Java flavour of the BIP (Behaviour, Interactions, Priorities) framework

- https://github.com/sbliudze
- https://github.com/hoangia90

Other Projects
My new projects will be put on GitHub

- https://github.com/hoangia90

PUBLICATIONS

- Étienne André, Hoang Gia Nguyen et Laure Petrucci. **Distributed non-Zenoness parametric model checking**. Formal Methods in System Design 2022
- Hoang Gia Nguyen, Laure Petrucci, et Jaco van de Pol. **Layered and Collecting NDFS with Subsumption for Parametric Timed Automata**. 23nd International Conference on Engineering of Complex Computer Systems, IEEE CPS ICECCS 2018
- Étienne André, Hoang Gia Nguyen et Laure Petrucci. **Efficient parameter synthesis using optimized state exploration strategies**. 22nd International Conference on Engineering of Complex Computer Systems, IEEE CPS ICECCS 2017
- Étienne André, Hoang Gia Nguyen, Laure Petrucci et Sun Jun. **Parametric model checking timed automata under non-Zenoness assumption**. 9th NASA Formal Methods Symposium NFM 2017
- Étienne André, Giuseppe Lipari, Hoang Gia Nguyen et Youcheng Sun. **Reachability Preservation Based Parameter Synthesis for Timed Automata**. 7th NASA Formal Methods Symposium NFM 2015
- Étienne André, Camille Coti et Hoang Gia Nguyen, **Enhanced Distributed Behavioral Cartography of Parametric Timed Automata**, 17th International Conference on Formal Engineering Methods ICFEM 2015
- For more publications : https://lipn.univ-paris13.fr/~hoanggia.nguyen/

EDUCATION

Ph.D. of Computer Science
Université Sorbonne Paris Nord

📅 2015 – 2018 	📍 LIPN Laboratoire

Master of Computer Science
Université de Bordeaux (Computer Science) & Université de Paris 6 (Telecommunication & Networking)

📅 2012 – 2014 	📍 PUF

- M2 - 2nd year : 1st class student with GPA: 15.6 (Nominated for the best thesis)
- M1 - 1st year : 2nd class student with GPA: 14.4

Bachelor of Software Engineering
Hoa Sen University

📅 2008 – 2012 	📍 Ho Chi Minh, Vietnam

Gifted Student of Mathematics, Physics and Chemistry
Nguyen Chi Thanh High School

📅 2005 – 2008 	📍 Ho Chi Minh, Vietnam

REFEREES

Senior Innovation Manager Olivier Héron
✉ Olivier.Heron@cea.fr

Senior Researcher Simon BLIUDZE
✉ Simon.Bliudze@inria.fr

Professor Étienne ANDRÉ
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Professor Laure PETRUCCI
✉ Laure.Petrucci@lipn.univ-paris13.fr

Associate Professor Anne DICKY
✉ Anne.Dicky@labri.fr

Associate Professor Thanh Tho QUAN
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