

# Georges Aaron RANDRIANAINA

\* Nationality: Malagasy (Madagascar)  
✉ georges-aaron.randrianaina@irisa.fr  
🌐 www.randrianaina.ralaimazoto.com

## Research Interests

Software Product Lines, Highly-configurable Systems, Build Systems, Incremental Builds, Reproducible Builds

## Education

- Oct. 2021–\* **PhD student in Computer Science**, *Université de Rennes, France*  
Grant from the French Ministry of Research and Higher Education (competitive admission process)
- 2019–2021 **MSc in Computer Science**, *École Normale Supérieure de Rennes & Université de Rennes, France*  
Computer Science Research Curriculum
- 2016–2019 **BSc in Computer Science**, *Université de Lille, France*  
Software Engineering with Research Option

## Language

**Malagasy:** Native      **English:** Fluent      **French:** Bilingual

## Experience

- Jul. 2021 – **Research Engineer**, *DiverSE team, IRISA Laboratory, Rennes, France*  
Sep. 2021 Working on the Incrementality of Build Systems for Highly-configurable Systems
- Feb. 2021 – **Research Intern**, *DiverSE team, IRISA Laboratory, Rennes, France*  
Jun. 2021
  - Subject: Incremental Build of Linux Kernel Configurations
  - Supervisor: Pr. Mathieu Acher, Dr. Djamel Eddine Khelladi, Pr. Jean-Marc Jézéquel
- Jun. 2020 – **Research Intern**, *DiverSE team, IRISA Laboratory, Rennes, France*  
Aug. 2020
  - Subject: Incremental Compilation of Linux Kernel Configurations
  - Supervisor: Pr. Mathieu Acher
- Nov. 2019 – **Research Intern**, *DiverSE team, IRISA Laboratory, Rennes, France*  
May 2020
  - Subject: Uniform Random Sampling on SAT Formula: Application to the Linux Kernel
  - Supervisor: Pr. Mathieu Acher
- Apr. 2019 – **Research Intern**, *Spirals team, Centre Inria de l'Université de Lille, France*  
Jun. 2019
  - Subject: Optimization of Python's Energy Consumption
  - Supervisor: Pr. Romain Rouvoy
- Jan. 2019 – **Research Intern**, *CFHP team, CRISAL, Université de Lille, France*  
Mar. 2019
  - Subject: Contribution to integro-differential elimination
  - Supervisor: Dr. François Lemaire

## Service

- 2024 **Program Committee**, *28th ACM International Systems and Software Product Line Conference (SPLC), Demonstrations and Tools Track*
- 2024 **Sub-Reviewer**, *The 31th ACM Conference on Computer and Communications Security (CCS)*
- 2023 **Program Committee**, *6th International Workshop on Variability and Evolution of Software-Intensive Systems (VariVolution)*
- 2022 **Sub-Reviewer**, *ACM Transactions on Software Engineering and Methodology (ToSEM)*

## Publications

### International Conferences

- [1] Mathieu Acher, Benoit Combemale, **Georges Aaron Randrianaina**, and Jean-Marc Jézéquel. Embracing Deep Variability For Reproducibility and Replicability. In *ACM Conference on Reproducibility and Replicability (REP)*, Rennes, France, June 2024. ACM.
- [2] Mathieu Acher, Luc Lesoil, **Georges Aaron Randrianaina**, Xhevahire Tërnavá, and Olivier Zendra. A call for removing variability. In *Proceedings of the 17th International Working Conference on Variability Modelling of Software-Intensive Systems, VaMoS '23*, page 82–84, New York, NY, USA, 2023. Association for Computing Machinery.
- [3] Xhevahire Tërnavá, Luc Lesoil, **Georges Aaron Randrianaina**, Djamel Eddine Khelladi, and Mathieu Acher. On the interaction of feature toggles. In *Proceedings of the 16th International Working Conference on Variability Modelling of Software-Intensive Systems, VaMoS '22*, New York, NY, USA, 2022. Association for Computing Machinery.
- [4] **Georges Aaron Randrianaina**, Djamel Eddine Khelladi, Olivier Zendra, and Mathieu Acher. Towards incremental build of software configurations. In *Proceedings of the ACM/IEEE 44th International Conference on Software Engineering: New Ideas and Emerging Results, ICSE-NIER '22*, page 101–105, New York, NY, USA, 2022. Association for Computing Machinery.
- [5] **Georges Aaron Randrianaina**, Djamel Eddine Khelladi, Olivier Zendra, and Mathieu Acher. Options Matter: Documenting and Fixing Non-Reproducible Builds in Highly-Configurable Systems. In *MSR 2024 - 21th International Conference on Mining Software Repository*, Lisbon, Portugal, April 2024.
- [6] **Georges Aaron Randrianaina**, Xhevahire Tërnavá, Djamel Eddine Khelladi, and Mathieu Acher. On the benefits and limits of incremental build of software configurations: an exploratory study. In *Proceedings of the 44th International Conference on Software Engineering, ICSE '22*, page 1584–1596, New York, NY, USA, 2022. Association for Computing Machinery.

### Workshop

- [7] **Georges Aaron Randrianaina**. Incremental Build of Linux Kernel Configurations. In *EuroDW 2022 - 16th EuroSys Doctoral Workshop*, April 2022.

### Poster

- [8] **Georges Aaron Randrianaina**. Poster: Enabling Efficient Exploration of Linux Configuration Space with Incremental Build. In *19th European Computer Science Summit, Edinburgh*, October 2023.

### Theses

- [9] **Georges Aaron Randrianaina**. Optimisation de l’empreinte énergétique de Python. Master’s thesis, Université Lille, France, June 2019.
- [10] **Georges Aaron Randrianaina**. Incremental Build of Linux Kernel Configurations. Master’s thesis, Université Rennes, France, July 2021.

## Teaching

- Fall 2023 **Model-Driven Engineering, MSc, 27 hours at ISTIC, Université de Rennes**  
In charge of the organization and supervision of the tutorials, lab sessions, and final projects for a group of 10 students  
**Domain-Specific Languages, 5th year, 16 hours at INSA Rennes (Engineering School)**  
Supervision of the lab sessions of a group of 20 students
- Fall 2022 **Compilers’ course, MSc, 32 hours at ISTIC, Université de Rennes**  
Supervision of the lab sessions of 2 groups of 20 students each  
**Introduction to Object-Modelling, BSc, 32 hours at ISTIC, Université de Rennes**  
Tutorials for 3 groups of 40 students each
- Fall 2021 **Introduction to Object-Modelling, BSc, 64 hours at ISTIC, Université de Rennes**  
Tutorials for 3 groups of 40 students each and supervision of lab sessions for 5 groups of 15 students each

## Talk

- 2024 **Options Matter: Documenting and Fixing Non-Reproducible Builds in Highly-Configurable Systems**, *Groupements De Recherche, Génie de la Programmation et du Logiciel (GDR GPL)*, Strasbourg, France
- 2024 **Documenting and Fixing Non-Reproducible Builds due to Configuration Options**, *Free and Open source Software Developers' European Meeting (FOSDEM)*, Brussels, Belgium
- 2023 **Towards Incremental Build of Software Configurations**, *Groupements De Recherche, Génie de la Programmation et du Logiciel (GDR GPL)*, Rennes, France
- 2022 **Smart Building of Software Variants**, *Software Engineering and Language Department's Annual Seminar, IRISA Lab*, Rennes, France

## Volunteering

- 2023 **GDR GPL Student Volunteer**
- 2022-\* **DiverSE Coffee Organizer**  
As an organizer, I strive to diversify the discussions by covering topics both within the DiverSE team and beyond. I have invited presenters on various subjects, including Computer Science Education (e.g., a high school teacher), the Free and Open-source Software Ecosystem (e.g., a developer from the Tails OS project), and, of course, Computer Science Research (e.g., academics from various universities).

## Misc

- 2024 **Reproducible Builds Report**  
Our MSR'24 paper was mentioned in the Reproducible Builds' Report of February  
<https://reproducible-builds.org/reports/2024-02/>
- 2022 **Accelerating software configuration space study through incremental build**  
Our ICSE'22 paper was covered in the online press of the CNRS dedicated Software Engineering Reserch <https://www.ins2i.cnrs.fr/en/cnrsinfo/accelerating-software-configuration-space-study-through-incremental-build>