

Jean Lucien Randrianantenaina - Mathematician / Python developer

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Notes : 🌐 denote a web hyperlink.

Summary

I am a mathematics student with a primary interest in algebra, combinatorics, number theory, and cryptography. I am also a self-taught Python programmer and web developer (back-end) with a strong interest in Artificial Intelligence and Data Science. These two domains complement each other, and I like to learn and explore new horizons in research for innovative solutions. I am motivated, dynamic, creative and ready to face problems and obstacles.

Education



- 2022 – 2023 **Structured Master, Fundamental Science Stream**
African Institute for Mathematical Sciences Cameroon.
- 2018 – 2022 **Master 2, in Fundamental Mathematics**
Faculty of Science, University of Fianarantsoa, Madagascar.
All modules completed, but program interrupted due to external circumstances.
- 2015 – 2018 **Bachelor Degree, in Fundamental Mathematics**
Faculty of Science, University of Fianarantsoa, Madagascar.
Project : “Resolution Par Radicaux”, Supervised by Pr. Solo Randriamahaleo.
- 2014 – 2015 **Baccalaureate, in Technology in Industrial Engineering**
Technical High School Beravina Fianarantsoa, Madagascar.

Academic Projects and Talks

- Currently **AIMS research essay: “Carmichael number of the form $2^n p^2 + 1$ and $2^n p^3 + 1$ ”.**
Supervised by Prof. Florian Luca, University of Witwatersrand, South Africa.
- 2023 **AIMS talk : “Fermat last theorem, with $n=4$ ”** 🌐
Presented to AIMS Cameroon students. Supervised by Prof. Dr Hans Georg Ruck, Universität Kassel.

Personal Projects

- Currently **Mk-Forum** 🌐
Creation of a forum dedicated to Mathematics with HTML, CSS/Bootstrap, JS for the Front-end and Python3/Django, MySQL for the Back-End.
- 2023 **FCryptos** 🌐
Implementation of cryptography methods with Python : Shift cipher, Vinègre cipher, SPN, RSA, ENIGMA machine.
- 2022 **Pendu Malagasy** 🌐
A Malagasy version of the game hangman, built with Python3/TKinter.

- 2022 **Unbeatable TicTacToe** 
Tic-Tac-Toe created with HTML, CSS and JavaScript, and features an automated computer player that uses a combination of random placement and min-max algorithm to make each move depending on the chosen level.
- 2019 **Bellman-Kalaba** 
A graphical interface for the algorithm of Bellman-Kalaba (shortest-path) made with Python3/TKinter.

Extracurricular Courses

- Jan.-Jul. 2022 **Back-End Web Development** 
Html, CSS, JavaScript, MySQL and Node.Js.
- 2021 **CIMPA Research school Fianarantsoa Madagascar**
Probabilistic and statistical modelling in epidemiology and environment.

Skills

- Languages** English (advanced), French (advanced), Malagasy (native).
- Coding** PHP, Python, R, SQL, \LaTeX , SageMath, Pascal, Prolog.
- Databases** MySQL, SQLite.

Extra Academic Involvement and Interest

- 2023 Group leader mentoring children in S.T.E.M., Saker baptist school Limbé Cameroon.
- 2022 Certificate In Communication, Self-awareness, Mental strength, Choosing a positive attitude, delivered by **Hello Elton**.
- Other** Music (singing, playing guitar), Trekking, football.

References

Prof. Florian Luca | Professor of Number Theory

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Prof. Andreas Buchleitner | Professor of Theoretical Physics

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Prof. Solo Randriamahaleo Rajaofetra | Professor of Algebra

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