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Summary

I am a student in mathematics. I am very interested in maths generally based in the field of cryptography, algebra and number theory, and also in computing. Currently, I am doing my master's thesis on the stream cipher family of cryptography. I am self-taught in programming with Python 3, generally based on Gérard Swinnen's book, and am currently very passionate about computing technologies. I also have a strong interest in IT security. I am motivated, dynamic, serious, and creative, and I am a problem solver.

Education

- 2022 – 2023 **Structured Master, Fundamental Science Stream**
African Institute of Mathematical Science Cameroon.
- 2019 – 2020 **Master 1, in Mathematical Education**
Ecole Normale Supérieure, University of Antananarivo, Madagascar.
- 2016 – 2019 **Bachelor degree, in Mathematical Education**
Ecole Normale Supérieure, University of Antananarivo, Madagascar.
- 2014 – 2015 **Baccalaureate, série C**
Lycée Joseph Ravoahangy Andrianavalona Antananarivo, Madagascar.

Project and work

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| Currently | Research on advanced stream cipher cryptography
Supervised by Prof. Giulio Codogni, University of Roma Tor Vergata. | AIMS Cameroon |
| 2023 | Personal website 
An portfolio written in html, JavaScript and Bootstrap | Personal project |
| 2023 | Berlekamp-Massey Algorithm 
An implementation of the Berlekamp-Massey Algorithm written in Python3 using Sympy. | Personal project |
| 2023 | SPN Code 
Encryption and decryption with Substitution Permutation Network written in Python3 | Personal project |
| 2023 | RSA cryptosystem 
A graphical interface for the RSA cryptosystem (encryption and decryption) made with Python3/Tkinter. | Personal project |
| 2022 | Olympic flag 
It's a drawing of the Olympic flag on the python graphical interface Tkinter. | Personal project |

Experience

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| Jan.-Feb. 2020 | Teaching internship mathematics
CEG 67Ha Betsimitatatra. | Course of study |
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Extra training

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| June 2022 | Initiation to website development at Orange Digital Center Madagascar
Html, CSS, MySQL, PHP. |
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Extra activities

- June 2022 **Member of a tree data collection team in a forest**
Mantadia Park, Andasibe, Madagascar
- May 2022 **Sharing session about algorithm and initiation to python programming**
Y-Tech club at YMCA Madagascar

Skills

Languages	English (high intermediate), French (advanced), German (low intermediate), Malagasy (native).
Coding	Python, R, \LaTeX , SageMath.
Framework and library	Pandas, Numpy, Scipy, Sympy.

Extracurricular and interest

- 2023** Leader of give-back team which mentors children in S.T.E.M. (Science, Technology, Engineering, and Mathematics), Save the Children Orphanage, Limbe, Cameroon.
- Clubs** Gender and library clubs at AIMS Cameroon.
- Feb.-Jun. 2022** Y-Tech club member at YMCA Madagascar
- Other** Singing, swimming, walking in the forest and exploring nature.

References

Dr. Giulio Codogni | Professor of Mathematics and Cryptography

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Dr. Andreas Buchleitner | Professor of Theoretical Physics

Department for Quantum Optics and Statistics

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Dr. Fortunat Rajaona Solofomampionona | Research Fellow

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