

I am a passionate engineering student that always thrives to discover new things related to ECE and security. I also have a strong incline for education and sharing my love and knowledge to others. I also provide my know-how and expertise in IT as an independent consultant.

## EDUCATION

<b>M. Sc. in Electrical Engineering, chip design and electronics</b> KULeuven	September 2024 - June 2026 Leuven, Belgium
<b>B. Sc. in Engineering, electricity and computer Science</b> UCLouvain, Electricity (grade : 15.43) Computer Science (grade : 16.83)	September 2021 - June 2024 Louvain-la-Neuve, Belgium

## SKILLS

<b>Tools and Languages</b>	Python, C, Verilog & System Verilog (Vivado, Quartus), Cadence, JAVA, Matlab, Simulink, Git, L <sup>A</sup> T <sub>E</sub> X, Bash, Fusion 360, Altium Designer, Chisel
<b>Languages</b>	French (Mother Tongue), English (C1), Dutch (B2)

## TECHNICAL EXPERIENCE

<b>INDEPENDENT IT CONSULTANT (Junior Enterprise)</b> Junior Consulting Louvain	April 2024 - Now Louvain-la-Neuve, Belgium
• Digital marketing consultant advising small local business. • <u>Skills:</u> SEO, Odoo suite, Digital Marketing, Google Analytics, Wordpress, ERP	

<b>VULNERABILITY ANALYST INTERN</b> NXP Semiconductors	June 2025 - August 2025 Leuven, Belgium
• Build a low-cost demonstration device of an ElectroMagnetic Fault Injection (EMFI) attack against a TI LAUNCHXL-CC2640R2 board. • Replicated a researcher's attack against the crypto core. Extended it to target a vulnerability in the bootflow sequence to re-gain JTAG communication. • <u>Skills:</u> Vulnerability analyst, Python, Chipwhisperer, Side-Channel, 3D printing, Soldering, EMFI, EM	

<b>TUTOR</b> UCLouvain	September 2024 - June 2024 Louvain-la-Neuve, Belgium
• Teaching Signals & Systems and Introduction to Computer Science. • Tutoring for a class of 30 second year bachelor students and 24 first year bachelor students. • <u>Skills:</u> Teaching, Python, Signal and Systems theory	

## PROJECTS

<b>Master thesis - Accelerating LLM Inference using Self-Adaptive Andra Format w/o Calibration</b>	June 2025 - June 2026
• Working on state of the art quantization algorithm and group float arithmetic. Keys towards efficient and affordable on the edge LLM's.	

<b>Design of the RSA algorithm on a co-processor using ARM and a FPGA</b>	October 2024 - December 2024
• Implemented the RSA algorithm in C, ARM assembly, and partial implementation on <i>FPGA</i> using <i>verilog</i> . Improved the execution speed by over <b>1000 %</b> compared to pure C implementation using a co-processor. • Used state of the art technique to improve speed. <i>Montgomery multiplication</i> for efficient multiplication in hardware. Implemented the <i>Chinese Remainder Theorem</i> that shows a <b>25 %</b> speed improvement compared to a naive approach. • Improved soft skills such as : <i>project management, leadership, critical thinking, outside of the box thinking</i> .	

<b>Geolocation and Communication with a Rover on Mars</b>	February 2024 - May 2024
• As part of a team, we built a resilient geolocation system to track a rover on Mars through Zigbee and Ultra Wide Band antennas. Used Kalman filtering to enhance precision by <b>20 %</b> and make more accurate guess. Used cumulative sum and down sampling for minimal computing. • Build a communication system to get information from the robot. Bit error rate was under <b>1 %</b> and doubled the throughput using multiplexing.	

## EXTRACURRICULAR

<b>CyberSecurity Challenge:</b> semi-finalist and finalist of the 2024 and 2025 edition of the CyberSecurity Challenge. A CTF focused on Cybersecurity hosted at the Royal Military Academy.	2024-2025
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<b>UCLouvain Down:</b> built a website that monitors the status of UCLouvain's services. Improved my knowledge in web development, digital strategy, database and network.	2024
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<b>LIMUN:</b> participated in the biggest European MUN conference in London. Representing the United States at UNEP.	2023-2024
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