

Simon Forceville

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Leuven | Portfolio

 github |  linkedin

EDUCATION

Master of Nanoscience, Nanotechnology and Nanoengineering <i>Specialization: Nanophysics and Nanoelectronics Engineering</i> <i>Expected graduation: June 2027</i>	Oct 2024 KU Leuven
Bachelor of Electrical Engineering <i>Minor: Computer Science</i> <i>Pursued combined bachelor's and master's program with flexible course load to accommodate professional development.</i>	Oct 2020 - Jun 2025 KU Leuven
Bachelor of Industrial Sciences Mathematics (8h) - Sciences <i>Led organizing committee of Speelplaatsrock Festival 2019, managing a 10-person team over several months and coordinating 60+ staff for a 1500-visitor event.</i>	Oct 2019 - Oct 2020 Sep 2013 - Jun 2019 SPC Leuven

SKILLS

Programming & HDLs	Python MATLAB SystemVerilog Vue.js Django
Engineering Platforms	AWS SolidWorks with Rapid Prototyping (FDM) Docker
Audio Engineering	System design and DSP implementation REW SigmaStudio

EXPERIENCE

RiskConcile <i>Back-end Developer Regulatory Solutions Provider Part-time alongside studies</i> <ul style="list-style-type: none">Built various AI powered document analysis tools leveraging multi-agent AI workflows to reliably extract complex financial data, reducing processing cost up to 70%. Processing workflows ranged from extracting narrative proposals to SEC 10-K filings scanning and annual report analysis. The Key Information Document pipeline reduced client onboarding time by 50%.Developed a news analytics platform to synthesize market data into half-page asset-specific summaries using AWS Bedrock and SOTA LLMs. This platform allows portfolio managers to analyze news impact across portfolio compositions.	Mar 2022 Leuven
CYCTEMA <i>Owner Audio Solutions Provider</i> <ul style="list-style-type: none">Designed and operated professional audio installations for events up to 2000 visitors, including full system design and simulation of a high power four-way PA system.Managed end-to-end project delivery including setup, and live operation of sound and lighting systems.Executed up to 5 events annually, focus on high client satisfaction while maintaining full-time student status.	Jul 2019 - Sep 2024 Leuven

NOTABLE PROJECTS

Ultrasound Gesture Recognition with ML <ul style="list-style-type: none">Leveraging a highly realistic ultrasound simulation toolbox to generate training data for a ML algorithm to detect hand gestures based on ultrasound wave reflections in tissue-realistic media.Hands-on experience with a complex ML development lifecycle, generating and preprocessing high dimensional training data for an advanced ML application. Core skills include model selection, training and evaluation and data augmentation.	Feb - Jun 2026
General Matrix Multiplication Accelerator <ul style="list-style-type: none">Designed a MAC unit array fed by a flexible broadcast network in SystemVerilog in a realistic device architecture.Achieved 94% MAC utilization using output stationarity and shadow registers at the output to reduce SRAM bandwidth requirement.	Oct - Dec 2025
Architecture Design on Drone Platform <ul style="list-style-type: none">Led a 10-person team to architect a highly complex autonomous drone system, integrating computer vision, cryptography and wireless power transfer with quadcopter control algorithms.Technical responsibility included designing an integrated distributed intelligence system comprising connected edge nodes. Front-end design using Vue.js, Flask and Websockets to handle distributed messaging.	Oct 2024 - Jun 2025
BeatCyclette and Remork <ul style="list-style-type: none">Engineered a modular sound system integrated into a cargo-bike under hard design constraints.Leveraged a SOTA DSP development board, miniDSP devices and TI class D amplifiers for best in class performance.	Oct 2020 - Jun 2022
Integrated Audio Amplifier <ul style="list-style-type: none">Led analog circuit design and simulation using LTSpice and KiCad in a team environmentMeasurements using a TiePie USB oscilloscope and the accompanying Python SDK.	Nov - Dec 2022