Samuel Careau

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○ hollow-earth in samuel-careau ⚑ Canadian 🪪 Fully vaccinated

EDUCATION

Sep 2020 – May 2023 Montreal, Canada	**B.Sc. Physics,** *McGill University* Various chemistry electives Partial computer science minor completed
Aug 2018 – May 2020 Quebec City, Canada	**DEC Pure and Applied Sciences,** *CEGEP Champlain St-Lawrence*

PROFESSIONAL EXPERIENCE

Jul 2022 – present Quebec City, Canada	**Pension Buyback Technician,** *Ministère de la Cybersécurité et du Numérique* 🔗 • Financial data manipulation and data entry • Task automation with Python (PyPDF4, OCR)
May 2020 – Jun 2021 Quebec City, Canada	**Support Technician,** *Crobel/Batteries Expert* 🔗 • Car charger installations, car battery changes, battery installation in offgrid RVs • Custom battery pack building/repair/maintenance, custom electronic repairs • Solar energy setups from scratch (200W-2000W), industrial cabling

SKILLS

Electronics

Circuit design and assembly, industrial and residential cabling, solar projects setup, Arduino and microcontrollers. Digital gates, digital/analog control, KiCad.

Programming

Python (TensorFlow, Numpy, opencv2, scipy, Flask, Django), Rust, Java, C++ (Vulkan, OpenGL) make, C#, Unity, HTML, cmake, sqlite3/MySQL, ffmpeg. Agile and Scrum methodology

RESEARCH

Sep 2022 – Jan 2023 Montreal, Canada	**ALBATROS,** *Supervisor H. Cynthia Chiang* 🔗 • Used electronics skills to modify a Starlink RV unit to work on DC and bypass the router • Set up an error detection algorithm across a large range of frequencies and polarizations 🔗

PROJECTS

McHacks 2023 - Montreal Hackathon, *Musclee*
• Developped a workout tracking app over 24 hours using Flask, Sqlite3, HTML, Python, and CSS.
• Solved CSE's *crackme* challenge.

Scandium 🔗
A fully self-written in-development game engine relying solely on GML, Vulkan, and C++.

Handwritten LaTeX 🔗
A personal project which leverages machine learning and image recognition to transform my handwriting to LaTeX code. Uses Numpy, TensorFlow, and opencv2.

Chaosball - McGameJam 2021 🔗
Singleplayer 3D action game developed for the McGill Game Jam 2021 in 45 hours. Won 3rd place.

Solar power
Custom modular 500W solar-powered sonar for the Coast Guard, 1500W solar offgrid setup for a customer's cottage (approx. 160 Ah of batteries along with cabling, protection equipment, etc.)

Home lab
Set up a NAS on a LAN network along with a OpenVPN to access the LAN network securely from the outside. Added a Raspberry Pi to act as a local DNS along with Pi-hole. Added a remote server with WoL functionality running Ubuntu server edition. Worked with multiple VPS in order to set up services for games, Mediawiki and syncing files across devices.

LANGUAGES

French	**English**	**Russian**
Native	Native	Basic

COURSES

Computer Science - 208 (Prog. for Eng. and Phys. Sci.) | 250 (Intro. to Comp. Sci. [Java]) | 273 (Intro. to Computer Systems [Assembly/MIPS]) | 322 (Intro to C++ [C++]) | 557 (Computer Graphics [C++])

Physics - 328 (Electronics) | 432 (Physics of Fluids) | 534 (Nanotechnology) | 521 (Astrophysics)

Chemistry - 204 (Physical Chemistry) | 212 (Organic Chemistry I)