

Nicholas Harris

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EDUCATION

Concordia University
B. Eng Computer Engineering
GPA: 3.58/4

Jan. 2019 - Current

John Abbott College
DEC Pure and Applied Science 2018

Aug. 2016 - Dec. 2018

SKILLS

TECHNICAL SKILLS: Python, Java, C++, Data Structures, Algorithms, MATLAB, Git, Linux, REST, MySQL, JSON, JIRA, Android
LANGUAGE: Fluent in French and English

EMPLOYMENT

CAE

Software Developer Intern

Montreal, QC, May 2021 - Aug. 2021

- Worked in a SCRUM team developing and testing the immersive environment weather systems for CAE flight simulators
- Developed and tested a custom REST API solution for updating various weather, region, and cloud attributes as an alternative to the existing GUI
- Designed and developed a wind burst feature to focus a column of wind in the up or down direction that fades out over time at the site of aircraft
- Implemented and tested a turbulence intensity feature to an existing wind corridor model and added its effect to the simulated wind vectors

Hudson Yacht Club

Head Instructor/Sailing Instructor

June 2016 - Sept. 2020

- Directly managed a team of 9 instructors and 100 participants in the Junior Sailing Program
- Trained new instructors to develop proper teaching methods
- Planned and managed the logistics of attending various local and out of province events

PROJECTS

VM Cross-Assembler - Java

Jan. 2021 - Apr. 2021

- Design and Implement a Cross-Assembler for a VM supporting a subset of C instructions in Java
- Worked in a SCRUM team of 9 with biweekly releases and a focus on Agile, TDD, Refactoring, and CI/CD
- Developed 4 product backlogs alongside a domain dictionary, use case diagram, and key concept model

Hovercraft Simulation

Jan. 2021 - Apr. 2021

- Developed an autonomous hovercraft to move around a simulated track in CoppeliaSim using Python and Lua
- Designed the hovercraft using SketchUp based on the calculated fluid dynamics and Lagrangian mechanics
- Implemented the design using both proximity and vision sensors to traverse the track

Retail Site Stock Alert Web Scraper - Python

Oct. 2020 - Nov. 2020

- Developed a script to track a half dozen catalogues from various online retailers and notify when specified CPUs and GPUs are in stock
- Tracked a half dozen catalogues for various online retailers
- Used BeautifulSoup API to navigate and compare HTML to specific keywords in order to detect if a product is in stock
- Used Twilio API and Discord Webhooks to send text messages and notifications with a link to the specific product page

Space Concordia Robotics Software Team

Mar. 2019 - June 2020

- Developed competition critical software, in a SCRUM team, to communicate between a Power Distribution System and GUI in Python
- Implemented a Watchdog Timer for the rover microcontroller to allow for recovery in the event of a critical malfunction
- Corrected and refactored microcontroller code causing wheel motor malfunctions

AWARDS

Scholarship for Excellence In Computer Engineering, Ministre de l'Enseignement Supérieur

Jan. 2021

For presenting and maintaining a quality academic record in the Computer Engineering field.