
Education

- **École Secondaire Catholique Père-René-de-Galinée** (Class of 2018)
[Cambridge, ON] Fully french education, earning IB certificate.

Publications

- Charging Cavaliers Research Team. “Search for isolated fractionally charged particles (FCP) using CERN’s 10 GeV/c proton beam and fixed target.”; *Under Review*; European Journal of Physics EJP (2018).

Awards and Certificates

- 2nd place, **International Autonomous Robot Racing Challenge** (2017)
As the only high school against international universities from Canada, US, India, Thailand...
- **International Baccalaureate Middle Years Programme Certificate and Attestation** (2015)
Received attestation for participating in the 4 year program and the certificate for passing the online examinations (20% of students passed that year).
- **CERN’s Beamline for Schools** (2017)
We were the first team from the western hemisphere to win this international competition.
Received certificates signed by CERN’s director (Fabiola Gianotti) as well as additional certificates from school and members of provincial parliament.
- **IB Award for Scientific and Technological Innovation** (2015 & 2017)
Awarded for my contribution in building my school’s STEM infrastructure (leading 2nd physics team, starting the first-ever robotics & engineering teams, etc.) and encouraging younger students.
- **University of Ottawa Maker Award** [declined] (2018)
Valued at \$49 000
- **University of Ottawa President’s Award** [declined] (2018)
Valued at \$30 000
- Certificate of **Bilingualism** (2015)
- IB MYP **Best Personal Project** — awarded for **IBot** (2015)
- Bronze Cross & **Emergency First Aid** Certification (2014)
- Honour Roll (every year)

Current Involvements

- **Charging Cavaliers Particle Physics Team**, Member (since 2016)
Currently analyzing data received in the T9 Beamline at CERN in hopes of discovering a hypothetical particle (FCP).
- **Cavalier Robotics Team**, Founder & Leader (since 2016)
- **Particle Physics Team 2**, Leader (since 2017)
- **Student Council**, Treasurer (since 2017)
- **Squash Team**, Cofounder & Player (since 2016)

Implementation Projects

- **UniStatus** — Web scraper for university admission status.
- **FaceFilters** — Computer vision application to be used as an interactive display at my school
- **Bob** — Custom voice assistant
- **IBot** — Autonomous driving & parking system using only ultrasonic sensors
- **3D Printer** — 3D printer made from recycled materials
- **IARRC Car** — Camera-based autonomous race car
- **Peltier Smartwatch** — a homemade smartwatch with a coolant design based on MIT startup *'Wristify'*
- ...

Personal Interests

- Squash
- Languages (English, French, learning Egyptian Arabic)
- Electronics & Programming

Skills

- **Programming:** Python, C++, full-stack web development
- **Mechanical:** soldering, PCB etching, electronics
- **Design:** Autodesk Maya, 3DS Max
- **Systems:** Linux (Debian, CentOS), Windows, Unix
- **Tools and frameworks:** OpenCV, GTTS, Arduino, Raspberry Pi, Git, Heroku, Jupyter Notebooks.