

# Robert Vigneron

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## Skills

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- **Tools:** SolidWorks, Onshape, AutoCAD, Git, Excel
- **Languages:** Python, SQL, C++, C, Java

## Experience

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**Mechanical Team Lead** June 2022 – May 2025  
Spark Youth Robotics (FRC 8729) Kanata, ON

- Exercised communication as the mechanical team lead for two years, teaching 50 team members technical skills to be contributing members
- Spearheaded the design cycle and troubleshooting of all robot mechanisms, including elevator and end effector systems
- Prototyped and fabricated 3 multi-mechanism robots which competed in 8 FIRST Robotics competitions
- Created a full CAD design ([link here](#)) in Onshape and bill of materials for the team's 2025 robot
- Managed purchases in order to achieve goals while maximizing resources

**Network Infrastructure Intern** July 2024 – August 2024  
Nokia Ottawa, ON

- Displayed quick learning and initiative by researching, comparing, and selectively implementing methods of analyzing packet sequences
  - Dimensionality reduction methods: PCA, LDA, T-SNE
  - Statistical distance metrics: KLD, JSD, EMD, TVD
- Analyzed and employed a method of selecting a distance metric by comparing runtime data.
  - Collected, stored, and accessed experimental data in databases using SQLite in Python
- Engineered and professionally demonstrated a robust solution within required timelines

## Projects

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**Paragon – Python Video Game** github.com/qazwxp/Paragon-ICS4U-summative

- Developed an educational game using Pygame in Python, practicing object-oriented programming, organized file handling, and version control with GitHub
- Demonstrated extensive independent problem solving and goal management capabilities

**Arduino Binary Counter** github.com/qazwxp/arduino-binary-counter

- Engineered a binary counter with up and down buttons and a hold feature
- Showcased ability to learn new hardware and software skills very quickly

## Education

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**Bell High School – French Immersion Congregated Gifted Program** Sept 2021 – June 2025

- Leadership Experience: Relay For Life Head, Student Council Leader
- DELF B2 Certification

**University of Waterloo – BAsC in Mechatronics Engineering** Sept 2025 – Present

## Awards

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- University of Waterloo President's Scholarship (90%+, \$2000)
- FIRST Robotics Provincial Finalists (Team award 2023, 2024)