

Kheireddine Ghetas

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Summary of Strengths

- **Programming & Analysis:** Experienced in C, C++, Python, JavaScript, HTML, CSS, and Lua.
- **Modelling & Design:** Proficient modelling using SolidWorks, Blender, CS Paint, and AutoCAD.
- **Embedded Systems:** Experienced with microcontrollers (Arduino, Raspberry Pi).
- **Collaboration & Communication:** Ability to explain technical concepts clearly to diverse audiences and promote cooperation through version control to achieve project goals on time.

Education

2024-Present

Bachelor of Applied Science, Computer Engineering, 2nd Year

Queen's University, Kingston, ON

Pursuing a BEng. Education in performance in engineering design, computer engineering, software design, projects, and labs starting from Fall of 2024.

Technical Experience

Traffic Diversion Draughtsman – Dubai Municipality (DM)

Summer 2025

Dubai, UAE

Gained hands-on planning experience during the summer of my first year working in Dubai Municipality by designing traffic diversion schemes for construction projects across Dubai.

- Planned and drafted detailed traffic diversion layouts in AutoCAD to maintain safety and accessibility for drivers, pedestrians, and nearby properties during construction.
- Contributed to 10+ completed projects, preserving 90% of traffic flow and 24-hour road access.
- Coordinated with stakeholders to ensure construction schedules and traffic flow were preserved.

SW Team Member - Queens Knights Robotics Team (QKRT)

2024-2025

Queen's University, Kingston, ON

Gaining firsthand experience in software development and embedded systems of robots to compete in an annual international robotics competition (RoboMaster).

- Core team member improving robot's manual and autonomous navigation for a competition.
- Integrated software with hardware for precise omnidirectional movement using mecanum wheels.
- Performed kinematic calculations to convert joystick inputs into real-time motor commands.

Projects

Fox/Coyote Capture Simulation

Winter 2025

Queen's University, Kingston, ON

Developed a humane and data-driven wildlife capture strategy for Sandy Pines Wildlife Centre, replacing stressful netting methods with an automated simulation-based solution.

- Built an agent-based Python simulation (Mesa, NumPy, Pygame) modelling fox/coyote behaviour for optimal trap placement inside existing enclosure parameters.
- Designed the den-style safe shelter used in the simulation to minimize stress and ensure safety.
- Created an interactive GUI for staff to adjust variables and visualize heatmaps and trap zones.
- Passed backend/frontend tests with 80% capture efficiency and 12.5/15 user rating.
- Ensured project met harsh climate constraints (-30°C) and scalable prototype for \$10,000 deployment, and fully compatible with existing infrastructure.