

## About us

UBC Open Robotics' Robocup@Home Project aims to develop an autonomous domestic service robot. Our current robot is made to be able to accomplish tasks necessary to compete in the [Robocup@Home contest](#). Previously, our software team has been focused on the Robocup@Home Education, a platform for students to explore the software fundamental to the main competition but on commercially available hardware. We placed second worldwide in 2020. We are now working on our custom built robot with other UBC Open Robotics Robocup subteams.

Our other primary aim is to empower students with the opportunity, the tools, and the knowledge to experience robotics development through our hands-on project. We want to ensure all our members gain real world problem solving skills and the robotics and AI literacy that is essential to relevant careers in the future.

## Job Description

- Research, explore and implement technologies including: natural language processing, robot modeling and simulation, mapping and navigation, machine vision.
- Aid in the implementation of an closed-loop motion control system
- Integrate sensors, motors, electronics, microcontrollers, and software components to function as one cohesive system
- Write control software for microcontroller implementation and firmware for independently developed hardware components
- Design and conduct tests to evaluate performance
- The student will work closely within a tight-knit multidisciplinary team of other engineering students and computer scientists. We also have professional mentors that we consult with.

## Job Requirements

### About You

You love learning while having fun, get excited about building new things and are not afraid of the challenges faced when building something from scratch. You want to work with a collaborative team whose vision is to apply robotics to real-life and practical applications. You have the ability to work in fast-paced environments, on self-directed tasks, and with a close-knit team that is highly interactive and results-driven.

This is a position where you will work on a diverse range of challenges. You will need to be practical yet creative as you will be required to troubleshoot difficult and often frustrating problems. The following skills are highly sought after:

- Exceptional eagerness to learn and become better
- Experience with instrumentation and soldering
- Creative and systematic troubleshooting aptitude. Skilled at reading research papers and gleaning inspiration from them.
- Strong hands on prototyping skills
- Experience writing code (C++/Python)
- Experience using ROS
- Experience with modeling software such as Solidworks/Onshape
- Experience with sensors and actuators
- Able to communicate and collaborate with other software and hardware engineers, through sketches, block diagrams, flow charts, technical writing, and presentations
- Must maintain proper and accurate documentation of engineering research, developments, experiments, purchases, etc.