# Connor Alan Craigie

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**OBJECTIVE:** Obtain a summer internship in Computer Science or Robotics Engineering

**EDUCATION:**

**Worcester Polytechnic Institute (WPI),** *Worcester, MA*
**Bachelor of Science in Robotics Engineering,** *GPA : 3.79* *May 2021*

**TECHNICAL SKILLS:**

**Engineering:** ROS, CSWA Solidworks Certification, Control System Modeling, Circuit Development
**Programming Languages:** Python, Matlab, C++, Java, C, C-Lisp, Racket
**Manufacturing:** Trained Manual Machinist, CNC G-Code Programmer, PLC Programmer, 3D printing, Industrial Blueprint Developer, Automated Machine Design and Fabrication
**Workplace:** Microsoft (Word, Excel, Powerpoint), Adobe (DC, Premiere, Illustrator), GitHub

**PROJECTS:**

**RBE 3002 Unified Robotics IV Navigation and Mapping** *December 2019*

- Used ROS architecture in developing an autonomous map builder and path generation.
- Applied concepts such as SLAM, Kalman Filter, A* Navigation, and Image Processing.
- Before physical testing, simulated operation was performed using Gazebo and Rviz.

**RBE 3001 Unified Robotics III Trajectory Generation** *August 2019*

- Using MATLAB, developed high level trajectory generation for serial robotic arms.
- Integrated computer vision to determine object location relative to the robot base frame.
- Applied various methods of both forward and inverse kinematics through software.

**RBE 2002 Unified Robotics II Sensing** *April 2019*

- Designed and programmed a robot capable of navigating and sensing a variable field layout in a team of three people.
- Utilized C++ to develop a 2D adaptive pathfinding algorithm.
- Programmed a multi-layer PID control system to accurately traverse the playing field.

**RBE 2001 Unified Robotics I Actuation** *February 2019*

- Worked on a team of three to develop a robot capable of navigating a fixed course and actuating appropriately to interact with course elements.
- Utilized Solidworks and Mathcad to model the trajectory and realistic force analysis of the robotic actuator in space.

**EXPERIENCE:**

**Engineering Intern,** *EPTAM Precision Machining Solutions* *May 2018-August 2019*

- Fully developed a self feeding table saw used in cutting aerospace grade syntactic foams.
- Manufactured semi-automatic machinery for the painting and labeling departments.
- Implemented a machine grade laser measurement unit to automatically test consecutive parts for imperfections in a high volume manufacturing line.
- Reprogrammed PLC driven ovens to follow a given trajectory using PID Control.
- Enhanced old machinery by redesigning and replacing gear ratios and belt drives.

**CNC Programmer,** *EPTAM Precision Machining Solutions* *June 2017-August 2017*

- Programmed CNC pathing for components sold to the aerospace and medical industries
- Fixture design and development for specialty orders.