

# Rae Jeong

## Mechatronics

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**Rae Jeong**

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### Skills

Robot Control using C++/Python/MATLAB/SIMULINK

Mechanical Design for Robotics using SOLIDWORKS

Simple Robot Software using ROS

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### Experience

#### Fetch Robotics / Mechanical Engineering Intern

January 2016 - December 2016, San Jose, California, United States

Designed three degree of actuation mechanism for robotic application.

Electromechanical design and analysis.

#### Waterloo Autonomous Vehicles Lab / Research Assistant

September 2015 - December 2015, Waterloo, Ontario, Canada

Gimble implementation and testing for drone research.

Mechanical design of gimbal testing and calibration apparatus.

Writing ROS test scripts for gimbal testing.

#### MakeLab / Robotics R&D Engineering Intern

May 2015 - September 2015, Toronto, Ontario, Canada

Research and development of robotic arm design.

Using ROS as framework and microcontroller for modular joint control.

Modular robotic manipulator design with 4DOF, 1kg payload and 1 meter reach.

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### Projects

#### Jumping Robot / Controls

Untethered jumping robot using reaction wheels.

State space control design using MATLAB Simulations.

#### Differential Reducer / Mechanical

Inventing a Light-weight, compact, and cost effective reducer.

Attempt at replacing the harmonics drives for robot arms.

#### Modular Robotic Arm Project / Mechatronics

Project to create an affordable and functional 4DOF robotic arm.

Modular actuator design and joint control.

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### Education

#### University of Waterloo / Third Year Mechatronics Engineering B.A.Sc

September 2013 - April 2018, Waterloo, Ontario, Canada