

EDUCATION

Carnegie Mellon University

Pittsburgh, PA

GPA 3.84/4.00

Bachelor of Science in
Mechanical Engineering
Additional Major in Robotics
Spring 2018

Master of Science in Robotics
Fall 2019

SKILLS

Programming & Software

Java

C/C++

Python

MATLAB/Simulink

HTML/CSS/Django

SolidWorks

Weka

Languages

Fluent in Korean & English

RELEVANT COURSES

Computer Vision

Machine Learning

Feedback Controls System

Robotics Systems Engineering

Robot Kinematics and Dynamics

Fundamentals of Programming and

Computer Science

Principles of Imperative Programming

Soft Robotics

RELEVANT EXPERIENCES

Research Assistant – Computer Vision Group, Robomechanics Lab, Fall 2017-Spring 2018

- Conducted research in visual odometry for legged robots to explore the factors that reduce accuracy of visual odometry.
- Created simulations of bounding gait vision.

Software Engineer Intern – Verify Apply, Summer 2017

- Designed and implemented frontend and backend of website from scratch.
- Used Django framework.

Robotics Engineer Intern – Perception Robotics, Summer 2016 (Los Angeles, CA)

- Designed test rig for gecko gripper to test scaling effect on adhesion pressure.
- Manufactured molds for touch sensors using 3D printer.
- Conducted risk assessment for touch sensors on FANUC robotic arm.
- Operated Kawasaki RS06L using AS Language.

PROJECTS

Computer Vision, Spring 2018

- Implemented in MATLAB: Hough transform, bag of visual words, OCR using neural networks, image matching, stitching and homographies, 3D reconstruction, image alignment and tracking.

Machine Learning, Spring 2018

- Implemented in C++ and Java: decision tree, logistic regression, neural network, Hidden Markov Model.

Smart Dog Toy – Capstone, Spring 2018

- Designed and built semi-autonomous dog toy that interacts with the dog and feeds the dog.

Physical Pac-Man Game – Capstone, Fall 2017-Spring 2018

- Designed and built autonomous Pac-Man and tele-operated Ghost robots.
- Designed and built portable and easy to assemble game board.

Feeding Robot, Fall 2017

- Programmed in MATLAB a 5 degree-of-freedom robotic arm to scoop up beads and drop them into a hole to simulate feeding a person.

Robotics Projects – Introduction to Robotics, Spring 2016

- Designed nine robots using Lego Mindstorms and wrote code in robotc to complete projects with the following topics: computer vision, PID control, dead reckoning, motion planning, localization, urban search and rescue, and forward/inverse kinematics.

LEADERSHIP AND ACTIVITIES

Outreach Chair, WoMen@CMU, Fall 2016 – present

- Organize outreach events to expose Mechanical Engineering to local middle/high school female students through in-class sessions composed of a lecture and a hands-on experiment.

Teaching Assistant – Introduction to Robotics, Spring 2017 – present

- Organize and lead labs. Help students in office hours. Assess students for the labs.