Jeongwoo Cho

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Education

Georgia Institute of Technology – Atlanta, GA   August 2018 – May 2022
Candidate for B.S. in Mechanical Engineering, Minor in Computing & Intelligence
   Cumulative GPA 3.86/4.0
Candidate for M.S. in Mechanical Engineering, specialization in Robotics and Automation   Fall 2022 – Spring 2024

American School of Doha – Doha, Qatar   April 2011 – May 2018
Cumulative GPA 4.186/4.3   (top 5% of graduating class)

Experience

EPIC Lab Undergraduate Research Assistant – Atlanta, GA   May 2020 – Present
(Machine Learning Lead of Powered Knee & Ankle Prosthesis Project)
- Created updated version of the GUI used for controlling the Open-Source Bionic
  Leg (OSL) in Python 3 using PyQt5 for overall interface and PlotJuggler for data visualization
- Developing adaptive ML pipeline for real-time walking speed estimation using a forward predictor implemented
  with a user-independent CNN model and an analog backwards estimator to reliably relabel past gait data
- Worked on hyperparameter optimization and architectural optimization of CNN model
- Integrating NVIDIA Jetson Nano onto prosthesis for handling ML scripts and data analysis on ROS network

ML Software Development Team Member – Atlanta, GA   January 2022 – Present
(Georgia Tech Senior Capstone Design Project)
- Working in a team of 6 undergraduates to develop a system capable of sorting clothes
  based on its material composition, using information from the garment tag
- Developing the computer vision algorithm that can scan the tag and store the data on a Raspberry Pi 4
- Using Tesseract OCR for text recognition and evaluating a variety of one-stage and two-stage object detection
  algorithms to determine the best application for real-time laundry symbol classification system
- Implementing software onto Raspberry Pi 4 and integrating it with mechatronics sorting system
- Project sponsored by Celestial Theory, sustainable textile manufacturing & clothing design startup in Atlanta

Machine Learning Course Project at Georgia Tech (CS 4641) – Atlanta, GA   January 2021 – May 2021
- Learned introductory techniques in machine learning with emphasis on algorithms and
  their applications to real-world data
- Unsupervised learning for data exploration and supervised learning for predictive data analysis
- Worked on image classification project developing model for interpreting American Sign Language
  alphabet dataset by converting video to text through CNNs

Georgia Tech Off-Road Suspension Team Member (Baja SAE) – Atlanta, GA   August 2019 – May 2020
- Constructed MATLAB code to facilitate calculation of understeer gradient
- Assisted in turning inserts on a CNC lathe and tapping threads into the inserts for heim
  joints in the camber links and trailing arms of the vehicle
- Worked on interpreting IMU data, specifically analyzing acceleration data in the
  body frame in the inertial frame using quaternions and Euler angles

Skills

Programs: SolidWorks, LabVIEW, Adobe Photoshop, Microsoft Office Suite
Programming: Python, Java, MATLAB, C, LC-3 Assembly, LaTeX, SQL
Others: GitHub, Robotic Operating System (ROS), TensorFlow, Keras, Linux

Extracurricular Activities / Awards

President's Undergraduate Research Award   Spring 2022
- Adaptive machine learning pipeline for estimating slope on powered knee-ankle prosthesis
- Developing bio-mechanic kinematic equations to find ground-truth slope values with user data

Habitat for Humanity – Atlanta, GA • Doha, Qatar   March 2016 – Present
- Built St. Pius Nursery & Primary School for orphans in Arusha, Tanzania
- Built houses for families requiring need in Phuket, Thailand
- Home build and home restoration projects in Asheville, North Carolina