Junhyeok Jeong

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Education

Oregon State University Corvallis, OR

Honors Bachelor of Science in Computer Science, Minor in Mathematics, 3.88 GPA *Sep. 2017 – June 2021*

Main Courses

Data Structure, Analysis of Algorithms, Database Management Systems, Intro to AI, Machine Learning & Data Mining, Deep Learning, Software Engineering, Intro to Parallel Programming, Operating Systems

Experience

Undergraduate Research Assistant Nov. 2019 – Present

Oregon State University *Corvallis, OR*

- Implemented computer vision with OpenCV, PyTorch and Mujoco robotics as an undergraduate research assistant in the Dr. Cindy Grimm's grasping robot research team
- Explored Object Detection frameworks(YOLOv3, Mask R-CNN) and reached average 89% accuracy on detecting 3D-printed shapes

Office Assistant June. 2018 – Sep. 2018

IMG Advertising Company *Seoul, South Korea*

- Assisted data manipulation with Microsoft Excel and local festival advertisement documentary translations from Korean to English

Firearms repair technician SGT. Jan. 2015 – Nov. 2016

Republic of Korea Army *Seoul, South Korea*

- Developed soft skills like leadership, the importance of teamwork, and communication with teammates as a squad leader

Projects

Interactive Visualization for AI Education | *Javascript, React, Tensorflow, Keras* Sep. 2020 – Present

- Developed a web-based interactive visualization tool with Jupyter Widgets and python for beginners who want to learn about AI or machine learning with various models
- Generated various visualization features like confusion matrix, accuracy changes, feature extractions, and connections across layers of AI model

Teachable Machine | *Javascript, TensorflowJS, NodeJS* March 2020 – Sep. 2020

- Developed web-based tool with Javascript that makes creating machine learning classification models fast, easy, and accessible to everyone
- Implemented Knn classifier and Neural Network with TensorflowJS API and it shows over 90% accuracy for each class with at least 10 images from a user

Object Detection for Grasping Robot | *Python, OpenCV, Tensorflow, Mujoco, ROS* Nov. 2019 – Present

- Implemented YOLOv3 with camera sensors to detect object for the grasping robot arm. It reached 89% accuracy for each 3D-printed shape like sphere, cylinder, cone, and cuboid
- With ultrasonic sensor on Arduino board, learned about camera matrix to get height, width, and coordinates of the detected object

Online Bookstore Development | *Python, Flask, HTML/CSS, MySQL* April 2019 – June 2019

- Developed a online bookstore with MariaDB to learn about frontend and backend communication
- Implemented Python Flask to host database server and to manage item stocks on the bookstore

Data Visualization with Unreal Engine 4 | *Python, Unreal Engine 4* Jan. 2019 – July 2019

- Implemented a data visualization which converts from csv data to virtual world of Unreal Engine 4
- Explored Unreal Engine 4 to learn about AR/VR and implement data visualzation

Technical Skills

Languages: Python, C/C++, MySQL, JavaScript, HTML/CSS, Unreal Engine 4, GPU computing with CUDA
Frameworks: Keras, Tensorflow, PyTorch, Node.js, Flask, React
Developer Tools: Git, VS Code, Visual Studio, Android Studio, Flutter

Activities

2019 Summer Undergraduate Research Symposium Sep. 2019

- Presented URSA research poster (data analysis and visualization with Unreal Engine) at 2019 Summer Undergraduate Research Symposium

Honors College Leadership Challenge Course Sep. 2018

- Built teamwork skills by attending Honors College Leadership Challenge Course at OSU

Intel Oregon FIRST LEGO League Dec. 2017

- Supported the league progress and participants as a student volunteer