

# Junhyeok Jeong

541-908-9282 | [wmsgur3470@gmail.com](mailto:wmsgur3470@gmail.com) | <https://kimchidude.netlify.app/> | [github.com/wmsgur4322](https://github.com/wmsgur4322)

## EDUCATION

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### Oregon State University

Corvallis, OR

*Honors Bachelor of Science in Computer Science, 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, Mobile Software Development, Cloud Application Development

#### Research

- Data Analysis and Visualization with Unreal Engine - URSA Engage 2019 with Dr.Raffaele de Amicis
- Improve the Grasping Performance by Analyzing Target Objects with Computer Vision and Deep Learning Algorithm - Honors College Thesis with Dr.Cindy Grimm

## EXPERIENCE

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### Undergraduate Research Assistant

Nov. 2019 – May. 2021

*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 at Oregon State University
- Explored object detection frameworks(YOLOv3) and developed object measurement with OpenCV to get the location of detected object, it reached average 89% accuracy with 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

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### Interactive Visualization for AI Education | Javascript, React, Tensorflow, Keras

Sep. 2020 – June. 2021

- Undergraduate senior capstone team project with a mentor, Dr.Kahng Minsuk
- 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

### Automatic investment bot for Cryptocurrency | Python, PyQt, OpenAPI

April. 2021 – April. 2021

- 2021 BeaverHacks Hakathon project with other undergraduate student
- Developed an automatic investment bot for cryptocurrency with cryptocurrency market's OpenAPI and Volatility Break-out strategy
- Designed user-friendly interfaces to check cryptocurrency's overview, chart, ask and bid orderbook, and login own account with API keys

### Teachable Machine | Javascript, TensorflowJS, NodeJS

March 2020 – Sep. 2020

- Independence project with a mentor, Dr.Kahng Minsuk
- 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, YOLOv3, ROS* Nov. 2019 – May. 2021
- Honors Thesis Project with a mentor, Dr.Cindy Grimm
  - 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
- Team project for the web development course at Oregon State University
  - 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 Analysis and Visualization with Unreal Engine** | *Python, Unreal Engine 4* Jan. 2019 – July 2019
- URSA Engage 2019 project with a mentor, Dr.Raffaele de Amicis
  - 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 visualization

## TECHNICAL SKILLS

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

## ACTIVITIES

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- BeaverHacks Spring 2021** April. 2021
- Awarded the 3rd place with the ‘Automatic Investment Bot for Cryptocurrency’ project at 2021 BeaverHacks hakathon
- 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