

# Sim Jae Yoon

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## EDUCATION

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- **Pohang University of Science and Technology (POSTECH)**  
B.S in Dept. of Convergence IT Engineering (major in Dept. of Computer Science and Engineering)  
Pohang, Republic of Korea, Feb. 2017 ~ Feb. 2022

## SKILLS SUMMARY

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- **(Programming)** C, C++, Python, Java, MATLAB, OCaml
- **(Image Processing)** OpenCV
- **(Deep Learning)** Tensorflow, PyTorch
- **(Linux Server)** Unix/Linux, Docker
- **(Front-end)** HTML, CSS, Django
- **(H/W)** Arduino, OrCAD

## EXPERIENCE

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- **Software Development Project**, POSTECH, Pohang, Republic of Korea, Mar. 2018 ~ Jun. 2018  
**(Title) Docx 2 Pptx**  
Designed a tool for producing presentation materials according to pre-planned UI by using Python and Python-docx and Python-pptx library  
Service that converts a word-style file to a ppt-style file automatically at one's wants
- **Software Development Project**, POSTECH, Pohang, Republic of Korea, Aug. 2018 ~ Dec. 2018  
**(Title) Rating System for Visual Media by Bio-signal Measurement**  
Designed a biometric data-based video rating system by using Python and Arduino  
Service that gets biometric data from GSR, ECG, Heart rate, EEG sensor to analyze graphs that vary according to visual media
- **Hardware Development Project**, POSTECH, Pohang, Republic of Korea, Apr. 2019 ~ Jun. 2019  
**(Title) Raising Animals through Affection**  
Designed a finite state machine system game of visually raising animals by using OrCAD  
Game of simple algorithms that users can enjoy with the bread board
- **Software Development Project**, POSTECH, Pohang, Republic of Korea, Mar. 2020 ~ Jun. 2020  
**(Title) Designing Sensor Model for Autonomous Driving on the Roads at Night**  
Designed detection model for autonomous driving on highways at nights by using Python and OpenCV  
A fusion of low-cost night vision and thermal cameras to recognize surrounding vehicles
- **Hardware Development Project**, POSTECH, Pohang, Republic of Korea, Sep. 2020 ~ Dec. 2020  
**(Title) Ergonomic Wheelchair Model for Disabled Bowlers**  
Designed an ergonomic wheelchair model made of 3D model by using Arduino

Wheelchair that controlled by bowling gloves through data processing and Bluetooth

- **Software Research Project**, POSTECH, Pohang, Republic of Korea, Sep. 2020 ~ Dec. 2020

**(Title) Multi-Modal Object Detection in Thermal Imagery using Saliency Map**

Proposed a novel multi-modal framework to extend and improve upon any region CNN based object detector in thermal domain by borrowing features from RGB domain and saliency map by using Python and Pytorch

Computer vision project for improving accuracy or computational efficiency of object detection with specific data sets

- **Software Development Project**, 4DReplay, Seoul, Republic of Korea, Jun. 2021 ~ Jun.2021

**(Title) Panorama Stitching and Camera Moving by Gimbal Control**

Designed an image processing algorithm that makes panorama image effectively and control the gimbal by processing the xml file by using Python, Pytorch, C++ and OpenCV

Service that performs various functions like zooming, tracking, searching, etc. after creating panoramic image and controlling the gimbal to move the camera

- **Software Research Project**, POSTECH, Pohang, Sep. 2021 ~ present

**(Title) Brain Tumor Segmentation in mpMRI Scan with Deep Learning**

Proposed an effective segmentation model from the mpMRI scan images to improve the performance of dice score by using Python, Pydicom and Pytorch

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## ACTIVITIES

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- **Charitable Fund Sponsorship**

Save the Children, Mar. 2017 ~ Present

- **Football Club, Kickoff**

Pohang University of Science and Technology (POSTECH), Mar. 2017 ~ Jun. 2019

- **Exchange Student**

Seoul National University (SNU), Jun. 2018 ~ Jul. 2018

- **Einstein Class 10<sup>th</sup> College Student Mentor**

KOREA HYDRO & NUCLEAR POWER Co., Ltd. (KHNP), Dec. 2018 ~ Feb. 2019

- **University Festival Management Committee Planning Team Leader**

Pohang University of Science and Technology (POSTECH), Apr. 2019 ~ May 2019

- **Exchange Student**

University of California Berkeley (UCB), Jun. 2019 ~ Aug. 2019

- **Exchange Student**

Stony Brook University of New York (SBU), Aug. 2019 ~ Dec. 2019

- **Exchange Student**

Korea National University of Arts (K.Arts), Dec. 2019 ~ Jan. 2020

- **Student Adviser (SA) for freshmen**

Pohang University of Science and Technology (POSTECH), Jan. 2020 ~ Dec. 2020

- **Student Adviser (SA) President**

Pohang University of Science and Technology (POSTECH), Jan. 2020 ~ Dec. 2020

- **Undergraduate Research Intern - Computer Vision (CV) Lab**

Pohang University of Science and Technology (POSTECH), Jun. 2020 ~ Feb. 2021

- **Multimedia Group Development and Research Intern**

4DReplayKorea, Jun. 2021 ~ Aug. 2021

- **Undergraduate Research Intern - Artificial Intelligence and Medical Imaging (AIMI) Lab**

Pohang University of Science and Technology (POSTECH), Sep. 2021 ~ Dec. 2021

## **INTERESTS**

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- Traveling
- Watching Various Media
- Playing Baseball
- Working Out
- Cycling