In-Hyuk **Choi**

(+82) 10-6600-3754 | ih.choi@kaist.ac.kr | sabro98.github.io | Sabro98 | sabro98

Education

Korean Advanced Institute of Science and Technology(KAIST)   *Daejeon, S.Korea*
M.S. STUDENT IN SCHOOL OF ELECTRICAL ENGINEERING   *Mar. 2023 -*
- LIT Lab. (Advisor: Prof. Hyuncheol Park)

Jeonbuk National University(JBNU)   *Jeonju, S.Korea*
B.S. IN COMPUTER SCIENCE AND ENGINEERING   *Mar. 2019 - Feb. 2023*
- GPA: 4.48/4.50, Rank: 1/121

Research Interest

Machine Learning, Reinforcement Learning, Communication Engineering

Publications

INTERNATIONAL JOURNALS

- **In-Hyuk Choi** and Il-Seok Oh, "Weighted Edit Distance optimized using Genetic Algorithm for SMILES-based Compound Similarity", Pattern Analysis and Applications(PAA), In Minor Revision

DOMESTIC CONFERENCES

- Ji-Hyeon Hur, Si-nae Jeong, **In-Hyuk Choi**, Min-Woo Kim, Tae-Woong Yoo and Il-Seok Oh, "Precision benchmarking of deep learning-based apple detectors for automatic apple harvesting", Korea Software Congress (KSC), 2021.

- Ji-Hyeon Hur, **In-Hyuk Choi**, Si-nae Jeong, Dasom Seo, Jin Gook Kim and Il-Seok Oh, "A Transformer Model for Fruit Segmentation and Growth Monitoring from Peach Tree Images", Korea Software Congress (KSC), 2022.

Experience

Computer Vision Lab.   *Jeonju, S.Korea*
INTERNSHIP (ADVISOR: PROF. IL-SEOK OH)   *Sep. 2020 - Dec. 2022*
- Learn the basics and applications of pattern recognition and computer vision algorithms
- Detection and segmentation project for agricultural and medical images

Research Projects

NATIONAL INFORMATION SOCIETY AGENCY (NIA)

- Establishment of agricultural food big data platform and center business (Support)

INSTITUTE FOR INFORMATION AND COMMUNICATIONS TECHNOLOGY PROMOTION (IITP)

- A Technology of Integrated Management Platform for Multi-Hybrid SaaS Solution (Support)

- Development of microservices development/operation platform technology that supports application service operation intelligence (Support)

Certificates

- **Engineer Information Processing**

Honors & Awards

DOMESTIC

2022	**President's Award**, Academic Achievement Award	*Jeonju, S.Korea*
2022	**Grand Award**, Asia Seoul National First Round Programming Contest@JBNU	*Jeonju, S.Korea*
2022	**Grand Award**, Artificial Intelligence Project Presentation	*Jeonju, S.Korea*
2022	**Gold Award**, Software Creation Competition	*Jeonju, S.Korea*
2022	**36th Place**, Seoul Regional Onsite Contest	*Ilsan, S.Korea*
2021	**President's Award**, Academic Achievement Award	*Jeonju, S.Korea*
2021	**Excellence Award**, Artificial Intelligence Project Presentation	*Jeonju, S.Korea*
2021	**Gold Award**, Asia Seoul National First Round Programming Contest@JBNU	*Jeonju, S.Korea*
2021	**51st Place**, Seoul Regional Onsite Contest	*Seoul, S.Korea*
2020	**President's Award**, Academic Achievement Award	*Jeonju, S.Korea*
2020	**Gold Award**, Software Creation Competition	*Jeonju, S.Korea*
2020	**Excellence Award**, Idea Hackathon	*Jeonju, S.Korea*
2020	**Bronze Award**, Asia Seoul National First Round Programming Contest@JBNU	*Jeonju, S.Korea*
2020	**Encouragement Award**, Game Development Competition	*Jeonju, S.Korea*

Presentation

2022 SW Festival   *Seoul, S.Korea*

PRESENTER FOR <REAL-TIME FACE SWAP APPLICATION USING GOOGLE'S MEDIAPIPE>   *Dec. 2022*

- Introduced Google's MediaPipe, a powerful Real-time Computer Vision Framework.
- Introduced face-swap application in real-time using MediaPipe's faceMesh.
- Presentation Link (1:51:18 - 1:56:00)

Extracurricular Activity

ALPS (Algorithm & Programming Study Group)   *S.Korea*

CORE MEMBER & PRESIDENT@2022   *Feb. 2020 - Dec. 2022*

- Responsible for decision-making and overall operation of the group for academic improvement
- Gained knowledge of basic and advanced algorithms

Data Structure & Algorithm Study   *Jeonju, S.Korea*

LEADER   *Mar.2022 - Dec.2022*

- **Keywords: Algorithm, Data Structure**
- Responsible for data structure/algorithm study for 1 year
- Operate in 2 data structures and 3 algorithms classes

Program Committees

2022	**Staff**, 2022 Asia Seoul National First Round Programming Contest in JBNU	*S.Korea*
2020	**Staff**, 2020 Asia Seoul National First Round Programming Contest in JBNU	*S.Korea*

Computer Skills

Programming	**Python**, Matlab, LaTeX
Framework	**PyTorch, Tensorflow**, OpenCV

English

TEPS	2+ (Mid Intermediate Level of Communicative Competence)
TOEIC	830/990 (LC: 395/495, RC: 435/495)

Software Projects

Swap(A.f, B.f)
LEADER

Jeonju, S.Korea

May.2022 - Jun.2022

- **Keywords: Computer Vision, Face Swap, MediaPipe**
- **2022 SW Festival**@SWUniv
- **Gold Award**, Software Competition@JBNU
- Development face-swap application in real-time using MediaPipe's faceMesh.
- Software that changes user's face into the target's face through the target image and webcam
- Presentation Link

AlyAc
LEADER

Jeonju, S.Korea

Oct. 2020 - Dec. 2020

- **Keywords: Computer Vision, Detection, ChatBot**
- **Gold Award**, Software Competition@JBNU
- Development of a chatbot that informs the type and precautions when a user takes a picture of a pill
- Demonstration Link

JBUS
SERVER DEVELOPER

Jeonju, S.Korea

Jun. 2021 - Dec. 2021

- **Keywords: Meta Verse, MSA, AWS, Unity3D**
- 2021-2 Distributed Computing@JBNU (Prof. Hyunchan Park)
- Development of a metaverse game set in school for students who miss school during the COVID-19 situation
- Server structure implemented as MicroService Architecture (MSA) to accommodate as many people as possible
- Presentation Link

Battle with me
MAIN DEVELOPER

Jeonju, S.Korea

Oct.2021 - Dec.2021

- **Keywords: Unity3D, 2D MultiPlayer Game**
- 2021-2 Mobile Programming@JBNU (Prof. Kihyun Pyeon)
- A strategic multiplayer combat game where player obtain consumable items to survive, compete with weapons, and win.
- Presentation Link

GrandChild
MAIN DEVELOPER

Jeonju, S.Korea

May.2020

- **Keywords: TTS, OCR, GCP, Raspberry Pi4**
- **Excellence Award**, Idea Hackathon@JBNU
- Development of SW that reads small text instead for the elderly with poor eyesight
- Raspberry Pi 4 for portability
- OCR and TTS use Google Cloud Platform (GCP) services.
- Demonstration Link

RoadSave
LEADER

Jeonju, S.Korea

Aug. 2020 - Dec. 2020

- **Keywords: Transfer Learning, ResNet, CNN**
- **Excellence Award**, Artificial Intelligence Project Presentation@JBNU
- Development of artificial intelligence software that sends a danger signal when detecting risk factors on the road to prevent roadkill

JCode-JOTA
LEADER

Jeonju, S.Korea

Jun. 2021 - Dec. 2021

- **Keywords: OSS, VSCode extension**
- 2021-2 Open Source Software Development@JBNU (Prof. Hyunchan Park)
- Development of an extension that directly transmits source code from Web-based VSCode to JOTA, a school assignment scoring server
- Features such as user login, submission, and result confirmation
- Presentation Link

Adrenaline
MAIN DEVELOPER

Jeonju, S.Korea

Oct. 2020

- **Keywords: Unity3D, 2D Multiplayer Game**
- **Encouragement Award**, Game Development Competition@JBNU
- Develop a game in which the person who survives to the end avoids an infinitely approaching attack wins
- Build a system that can play up to 100 people simultaneously
- Demonstration Link

HowToWear
LEADER

Jeonju, S.Korea

Apr. 2020 - Jun. 2020

- **Keywords: MVVM design pattern, WPF**
- 2020-1 windows programming class@JBNU (Prof. Hyungki Kim)
- Development of an application that automatically recommends a combination of clothes suitable for the weather according to the clothes the user has
- Presentation Link