# WONSEO CHOI

Seoul, Republic of Korea

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https://wonseo-c.github.io/



## EDUCATION

**Hanyang University**                                                      Mar 2022 - Feb 2024

*Master of Science in Electronic Engineering*

· *Research Topic: AI for Network/Embedded Systems and Modeling/Simulation of Cyber-Physical Systems*
· *Overall GPA: 4.44 / 4.5*

**Hanyang University**                                                      Mar 2017 - Feb 2022

*Bachelor of Science in Electric Engineering*

· *Minor in Electronic Engineering*
· *Overall GPA: 4.07 / 4.5 (Major GPA: 4.18 / 4.5)*

## RESERACH PROJECT

**AI for Network/Embedded Systems**

· Localize WiFi Access Points using Convolutional Neural Network (with KT)
· Predict Path-Loss using Deep Neural Network

**Modeling/Simulation of Cyber-Physical Systems**

· Support Mutation in Lingua Franca by Implementing Savina Benchmark (with U.C. Berkeley)

**Additional Proejcts**

· Fuse IMU Sensors for Location Tracking using Kalman Filter (MCU Board)
· Develop Android App for Handwriting Number Recognition using Google ML Kit
· Develop Apple Watch App Integrating UWB Technology and Advanced Medical Data Monitoring
· Design Localization System using IMU Tag

## PAPER

1. **W. Choi** et al., "Enhanced Wi-Fi Access Point Positioning Using Hexagonal CNN With Mobile Data and Urban Information," in IEEE Internet of Things Journal, vol. 11, no. 20, pp. 33820-33832, 15 Oct.15, 2024.

2. Sung, S., **Choi, W.**, Kim, H., & Jung, J. I. (2023). Deep Learning-Based Path Loss Prediction for Fifth-Generation New Radio Vehicle Communications. IEEE Access.

3. Kim, T. M., **Choi, W.**, Choi, I. Y., Park, S. J., Yoon, K. H., & Chang, D. J. (2021). Semi-AI and Full-AI digitizer: the ways to digitalize visual field big data. Computer Methods and Programs in Biomedicine, 207, 106168.

4. Suh, S., Cheon, S., **Choi, W.**, Chung, Y. W., Cho, W. K., Paik, J. S., ... , & Lee, Y. O. (2022). Supervised segmentation with domain adaptation for small sampled orbital CT images. Journal of Computational Design and Engineering, 9(2), 783-792.

## EXPERIENCE

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|---|---|
| **LG Display** | Mar 2024 - Current |
| *Big Data Scientist/Engineer* | *Paju, Gyeonggi-do* |

· Analyze big data to improve yield.
· Develop R/Python code for Big data processing

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|---|---|
| **Catholic Univ. of Korea Yeouido ST. Mary's Hospital** | Aug 2020 - Feb 2021 |
| *Research Intern* | *Seoul, Korea* |

· Develop an automated AI system to extract test results from image-based result sheets using Big Data Processing techniques for AI applications.
· Perform experiments and implement research on domain adaptation through Generative Adversarial Networks (GANs).

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|---|---|
| **KIST Europe** | Feb 2020 - Jul 2020 |
| *Intern* | *Saarbrücken, Germany* |

· Develop an automated AI system to acquire experimental data, enabling heart rate calculation by analyzing size variations of heart images across frames.
· Enhance cell tracking performance by optimizing the U-Net layer and analyzing the Localization component for accurate cell tracking.

## TECHNICAL STRENGTHS

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| **Computer Languages** | Python(with PyTorch, Tensorflow, Keras), R, MATLAB, Assembly Java, C++, TypeScript |
| **Developing Environments** | Mac, Windows, Linux (Ubuntu Server) |

## GRADUATE PORJECT

1. Detect Kickboard with Embedded Hardware (Jetson Nano Board)

2. Untact-kiosk: Design and develop a touchless keyboard and mouse using AI detection and clustering.

## ONLINE-DEMO

**Wonseo Choi**, Yongoh Lee, "Attention-aware U-Net toward the interpretability of single cell segmentation", KCCV 2020, Republic of Korea (Online) - demo video

## OTHER ACTIVITIES

### 겨자씨 키움센터 <span style="float:right">Feb 2021 - Aug 2021</span>
*Founding Activities*

· Obligatory recording paper Digitization Artificial intelligence learning model (module) development

### Visiting U.C. Berkeley <span style="float:right">Jun 2022 - Jul 2022 , Feb 2023</span>

· Design and develop the implementation of Lingua-Franca mutations

## TEACHIING ASSISTANT

### Probability & Statistics <span style="float:right">Sep 2023-Dec 2023</span>

· Generating Random Variables based on Probability distributions using MATLAB

### Computer Network <span style="float:right">Sep 2023-Dec 2023</span>

· Basic Algorithm for Computer Network using MATLAB

## AWARDS

1. Academic Excellence Award in the Hanyang Univ. graduation ceremony *Feb 2022*

2. Encouragement Award in the "HY-Running Pace Maker" Program *Jan 2022*