

# Kasun Gayashan Hettihewa

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A Computer Engineering Master's graduate with a Deep Learning research focus. Passionate about Machine Learning and Data Science. Seeking opportunities in Data Science and Machine Learning where I can apply my skills to solve real-world business and technical problems.

## SKILLS

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**Programming:** Python, NumPy, Pandas, Matplotlib, PyTorch, Scikit-learn, SQL

**Machine Learning:** Regressions, Random Forest, SVM, XGBoost, Deep Learning

## EDUCATION

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**Chulalongkorn University**  
M.Eng. in Computer Engineering

December 2023

**Asian Institute of Technology (AIT)**  
B.Sc(Eng) in Mechatronics Engineering

May 2017

## EXPERIENCE

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**PIC Lab, Chulalongkorn University**  
Research Assistant (Deep Learning)

Bangkok, Thailand  
Jan. 2022 - Present

- Design and develop a fully convolutional network (FCN) to segment liver tumors using computed tomography (CT) imaging data.
- Fine-tune the model and validate it with other datasets and radiological imaging.
- Improve the architecture using state-of-the-art deep learning approaches to reduce computational complexity while boosting the effectiveness of the network for segmentation.

**Global-Thaixon Precision Industry Company Limited**  
Automation Engineer

Chacheongsao, Thailand  
Sep. 2017 - Aug. 2021

- Design automation concepts to improve the quality control and efficiency of production. Implement cost-effective and time-saving automation methodologies.
- Experience in Keyence and Cognex machine vision systems.

## PROJECTS (more details at <https://kasunhettihewa.github.io/portfolio/>)

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### Automatic liver tumor segmentation in computed tomography (CT) imaging (Master's Thesis)

- Developed a novel Multi Attention Network (MANet) for liver tumor segmentation task.
- The network is designed based on FCN with attention mechanisms to highlight important features while suppressing irrelevant features for the tumor segmentation task.
- The novel network demonstrated promising results compared to state-of-the-art methods with comparatively small parameter overhead. The developed network is evaluated with two datasets.
- The research outcome was published in an international journal (**Scientific Reports, Q1, Impact Factor: 4.9**) and achieved the highest grade for the thesis research (**Grade: Very Good**).

### Development of a Vision-Based Ball Catching Robot (Capstone Project)

- The project investigates an automated solution for the ball-catching task using a static camera and an automatically controlled mechanical system.
- The moment method and contour techniques are implemented in the image processing algorithm to track the ball and recognize the ball-catching plane.
- The research project is published in an IEEE conference.