

# Hojong Jang

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## EDUCATION

**Purdue University, West Lafayette, Indiana**

May 2021 (Expected)

Bachelor of Science in Computer Engineering

GPA: 3.7/4.0

## EXPERIENCE

**Samsung Electronics:** Samsung Research

Seoul, South Korea

Software Engineering Intern

June 2020 – August 2020

- Analyzed **RNN Transducer** papers and its architecture to build **end-to-end automatic speech recognition (ASR) neural network model**
- Converted **LibriSpeech** dataset to **TFRecord** format and implemented input data pipeline using **TensorFlow** API
- Constructed the **RNN Transducer model** into Python code using **TensorFlow**
- Experimented with varying model and training parameters to increase model accuracy
- Analyzed experiment results to determine healthy practices in terms of training and model accuracy

**Continuous Analysis of Many Cameras:** Embedded Vision 2 Team

West Lafayette, Indiana

Undergraduate Research Assistant

January 2020 – May 2020

- Contributed to creating a neural network model that **localizes and recognizes texts in natural scenes**
- Collected and analyzed natural scene text datasets and measured how effectively the model can learn
- Parsed and prepared datasets to create **custom dataset class** that can be loaded onto **PyTorch Dataloader** class
- Implemented several pre-trained **EAST detector** to run along with the team's overall system code and measured each of their **accuracy and efficiency** to evaluate if they are runnable on a **Raspberry Pi**

**Continuous Analysis of Many Cameras:** Image Database Team

West Lafayette, Indiana

Undergraduate Research Assistant

May 2019 – December 2019

- Assisted Dr. Yung-Hsiang Lu in developing a prototype version of **real-time video feature indexing storage system** using Python, MySQL, Vitess and MinIO that gathers live streams from public IP cameras around the world and allows user query for specific cameras with features such as humans or cars
- Optimized the system to process and store images up to **108 frames-per-second** (with parallel programming)
- Managed Python scripts with skills in **OpenCV**, **multiprocessing** and object-oriented programming

**Big Data Big Impact:** Purdue University sustainability focused technology organization

West Lafayette, Indiana

Software Development Team

September 2019 – April 2020

- Assisted in creating a neural network that can classify plastic bottles and cans effectively
- Gathered dataset of plastic and glass bottles through web scrapping using **Selenium**
- Performed data augmentation using **Keras** library
- Utilized Travis CI to try integration of overall pipelines of the project

## PROJECTS

**Flappy Bird**

November 2019 – December 2019

- Implemented the Flappy Bird game using **STM32 Microcontroller** with a **LED matrix** as a display
- Interfaced a microcontroller using software to manage its internal and external hardware peripherals

**New York Bike Traffic**

November 2019

- Applied **linear regression, logistic regression and naïve Bayes classification** to perform data analysis on New York bike traffic dataset using Python and came up with solutions to hypothetical real-world problems

**Interpreter & Compiler**

October 2019 – December 2019

- Utilized **object-oriented programming** to create custom interpreter that converts bytecode into text instruction in **C++**
- Created custom compiler which converts text instruction into bytecode in **Java** (supports set of instructions)

## SKILLS

**Programming Languages:**

C, C++, Java, Python, Assembly C, Bash (basic commands)

**Frameworks/Technologies:**

TensorFlow, PyTorch, Git, Android Studio