Hojoung Jang

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EDUCATION

Purdue University, *West Lafayette, Indiana* *May 2021 (Expected)*
Bachelor of Science in Computer Engineering **GPA: 3.81/4.0**

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 (Best accuracy up to **61%**)
- Presented experiment results and future improvements for better ASR model to managers and engineers

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 features such as humans or cars in videos
- 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**

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 distinguish if they are runnable on a **Raspberry Pi**

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 and performed data augmentation using PyTorch library
- Utilized Travis CI to integrate overall pipelines of the project

PROJECTS

Flappy Bird *November 2019 – December 2020*

- 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 2020*

- 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*

- 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, Git, Android Studio