Shen-En Chen (Andrew Chen)

Atlanta, GA | +1 (404) 376 0019 | Hsinchu, Taiwan | +886 975596112
achen353@gatech.edu | www.linkedin.com/in/achen353 | achen353.github.io

EDUCATION

Georgia Institute of Technology | Atlanta, GA

- B.S. in Computer Science (Threads: Intelligence & Info Internetworking), GPA 3.96 *August 2018 – May 2021*
- M.S. in Computer Science (Specialization: Machine Learning; BSMS program) *August 2021 – May 2022*

SKILLS

- **Programming/Markup Languages:** Python, Java C++, C, HTML, CSS, JavaScript, LaTeX
- **Library & Frameworks:** Numpy, Scipy, Pandas, scikit-learn, Tensorflow/Keras, PyTorch, OpenCV, React.js, Dash
- **Relevant Courses:** Object-Oriented Design, Data Structures, Probability & Statistics, Algorithms, Database Systems, Computer Networking I, Computer Vision, Natural Language Processing, Machine Learning

EXPERIENCE

Medical Informatic Research and Genetic Elucidation Lab, National Taiwan University | Taiwan *May 2019 – August 2019*

Summer Intern

- Built a facial recognition program using OpenCV and convolutional neural networks (CNNs).
- Designed a machine learning classification model for 5 common lung tumor types using ensemble one-vs-one support vector machine (SVM) classifier.
- Applied 3D residual convolutional neural networks, using Keras and scikit-learn, on augmented Lung Image Database Consortium image collection (LIDC-IDRI) to classify benign and malignant lung tumors and achieved an accuracy, sensitivity, and specificity of 97.23%, 95.54%, and 98.12%, respectively.

PROJECTS

Taiwanese Traffic Object Detection | Taiwan *December 2020 – January 2021*

Trained and fine-tuned Darknet YOLOv4 Tiny model on a custom object detection dataset for Taiwanese traffic.

- Explored the capability of Darknet YOLOv4 Tiny by training and fine-tuning the model at different resolutions, learning rates, and momentum to build an object detection system specifically for Taiwanese traffic.
- Achieved an 87.5% mAP@0.5 at about 18 to 23 average FPS with Nvidia Tesla P100 GPU.

Proper Mask Wearing Detection and Alarm System | Taiwan *December 2020 – January 2021*

A face mask detector that can detect whether an individual wears a mask and if the mask is worn properly.

- Performed transfer learning on MobileNet V2 using Tensorflow/Keras, OpenCV, and Google Cloud Compute Engine.
- Designed and deployed a real-time detection app for the mask detection model using Dash framework.

ITS-Chatbot v2 (Generative Model) | Atlanta, GA *August 2020 – December 2020*

Continuation of the ITS-Chatbot project using a transformer-based model.

- Implemented a test script that evaluates the model on Piazza questions using Exact Match and F1 scores as metrics.
- Improved generated-answer selection with softmax confidence score calculation and thresholding.
- Incorporated and tested a BERT QA model on existing chatbot architecture using the ktrain Python library.
- Overhauled the model in a more object-oriented fashion that eased the subsequent implementation of the transformer-based document retriever.

ITS-Chatbot | Atlanta, GA *January 2020 – May 2020*

A chatbot add-on that aims to support digital dialogs between students and all resources available for a course.

- Built a data preprocessing pipeline for Piazza posts and comments using Spacy, NLTK and other Python libraries.
- Integrated the data preprocessing pipeline with the document embedding script and chatbot interface.

LEADERSHIP

Data Science at Georgia Tech (DSGT, or Data Science at GT) | Atlanta, GA *October 2018 – April 2020*

Content Creator *(January 2019 – April 2020)*

- Incorporated Jupyter Notebook with presentation to build interactive data science workshops for more than 80 DSGT members on topics such as Support Vector Machine, Ensemble Methods, and Intro to Deep Learning.
- Planned, with other organizing members, Hacklytics 2020 datathon and presented a workshop to over 50 students.