Vincent Foster Chen

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Education

National Tsing Hua University *Sep 17 – Jun 21*
Bachelor of Science in Physics, Minor in Computer Science *Hsinchu, Taiwan*
Total GPA: 3.81/4.3, CS-related GPA: 4.06/4.3
Artificial Intelligence Program Certificate, Data Science Program Certificate

Research Experience

Natural Language Processing and Sentiment Analysis Lab, Academia Sinica *May 21 – Present*
Research Assistant of Dr. Lun-Wei Ku *Taipei, Taiwan*
NLP Applications and Researches

- Created a novel metric for visual storytelling, which obtains 30% higher accuracy for story-pair ranking than current existing automatic metrics for NLG (Publications [1])
- Analyzed user preferences in forward referencing as click-bait feature to create news headlines, which excels in fluency, faithfulness and attractiveness comparing to SOTA baseline models (Publications [2])
- Collected multi-image question dataset to evaluate performance for the visual question generation task

Acoustic Hearing Group, National Tsing Hua University *Feb 20 – Aug 21*
Undergraduate Research Assistant of Dr. Yi-Wen Liu *Hsinchu, Taiwan*
Chinese Online Class-ware Automatic English Subtitle System

- Utilized the Kaldi tool kit and training on Automatic Speech Recognition models using AISHELL corpus and performed adaptation on self-collected Taiwanese Chinese corpus (24 hours long)
- Implemented attention-based deep neural network architecture from scratch (Python based) to create a text machine translator (Chinese to English)
- Debugged pre-designed algorithms (Python based) of video subtitle generator, increasing accuracy and extending video recognition segments from minutes to hours

Work Experience

Video Marketing intern *July 20 – Sep 20*
Essential Learning Group (ELG) *Shanghai, China*

- Produced podcast on speech therapies with speech pathologists and marketing teams
- Enhanced speech by filtering background noises and normalizing the vocal signal through Audacity software
- Advertised medical programs by creating video and animations

Projects

Fake News Topic Analysis *May 21 – June 21*

- Implemented Latent Dirichlet Allocation to detect latent topics and perform classification with machine learning algorithms
- Analyzed classification performance with word embeddings and SOTA language models (e.g., BERT)

Food Image to Text Recipe Generator *Nov 20 – Jan 21*

- Built a food Convolutional Neural Network classification model and utilized clustering algorithms to categorize food recipes. This system includes a self-designed UI with HTML

Self-Driving Car with Android App *May 19 – June 19*

- Assembled the automobile with Arduino, ultra-sensor module and a motor driver module to control embedding systems via Bluetooth 4.0

Bungee Jumping Simulator *Nov 18 – Jan 19*

- Programmed a bungee jumping simulator using MATLAB which animates the process and calculates the gravitational force and prevent the jumpers from hazards

Certification

Deep Learning Asia Silicon Valley Development Agency

- Certificate of Completion Deep Learning for Industrial Big Data

Natural Language Processing Udemy

- Certificate of Completion Natural Language Processing with Python

Club Experience

Contemporary Music Club *March 19 – May 19*

- Instructed band performance, performed as keyboardist and vocalist at Rolling Bamboo Concert

High School Physics Summer Camp *July 18 – Aug 18*

- Led Physics Summer Camp, including teaching high school students physics concepts through self-designed games, participated as camp guitarist

Physics Department Student Association *Mar 18 – Apr 18*

- Performed as keyboardist and guitarist at the Night of Physics

No2. Basement Band *Oct 17 – Nov 17*

- Performed as keyboardist and vocalist at Grass Music Festival

Services

Peer Reviewer

- AAAI 2021, IAAI 2021

Volunteer Service

- Taipei Zoo, Genesis Social Welfare Foundation

Technical Skills

Programming Languages: C, C++, Python, R, MATLAB, Verilog, LABVIEW
Packages: PyTorch, Keras, Scikit-learn, NLTK, Tensorflow
Embedding Systems: Arduino, RaspberryPi
Media :Premiere, After Effects, Audacity

Other Skills

TOEFL: Total: 108 (Reading: 28, Listening: 30, Writing: 25, Speaking: 25)
GRE: Verbal :152, Quantitative: 170, AWA:3.5
Musical Instruments: Piano, Violin and Guitar
Sports: Basketball, Baseball and Golf