HAOWEI CHUNG

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Education

National Tsing Hua University **Sep. 2018 – Jun. 2022**
Bachelor of Science in Computer Science *Hsinchu, Taiwan*
- GPA: 4.09/4.3, 3.90/4.0
- Last 60 Units GPA: 4.24/4.3
- Award: Academic Excellence Award for the top 5% students in the department of Computer Science (Fall 2021)

Research Experience

National Tsing Hua University **Sep. 2022 – Now**
Research Assistant | Theta Lab *Hsinchu, Taiwan*
- Conduct research on fair representation learning on medical images and natural images.
- Proposed a Multi-Exit debias CNN framework on CelebA & UTK dataset.
- Achieve state-of-the-art within the trade-off between accuracy and fairness.
- Improved fairness metric in 20% while losing 0.13% in accuracy.
- The work is under review by ICLR2023.

Work Experience

AMD **Jan. 2022 – Aug. 2022**
Software Engineer Intern | ISP IP Team *Hsinchu, Taiwan*
- Built an ISP tuning tool that assisted more than 20 engineers across Taiwan and China on verifying and calibrating their imaging algorithms.
- Built the tuning platform with C++, Python, Numpy, PyQt, CPython, and Visual Studio.
- Designed and built a pivotal data conversion feature for raw image database that saved 90% tuning time.
- Developed the tuning UI that assisted engineers to do high-level tuning and saved 50% developing time.

National Tsing Hua University **Jul. 2020 – Feb. 2020**
Teaching Assistant of Logic Design Laboratory *Hsinchu, Taiwan*
- Assisted professor to mark the exams and assign the homework and helped students in studying FPGA and Verilog.

POINT Robotic **Jul. 2020 – Aug. 2020**
Software Engineer Intern | Algorithm Team *Taipei, Taiwan*
- Improved the product algorithm with OpenCV and non-learning-based image processing methods.
- Added new manual labeling feature to object detection algorithm that provided flexibility to users.

Projects

Self-supervised Learning on Medical Image Captioning | *Python, Pydicom, Pytorch* **Jul. 2021 – Oct. 2021**
- Proposed an image captioning framework with self-supervised learning feature extractor.
- Proposed an novel masked contrastive learning CNN that could improve any down-stream language model performance.
- Improved 9% and 38% in Bleu-1 score on IU X-Ray and MIMIC CXR datasets respectively.

Recommendation System: Item-item Collaborative Filtering Algorithm | *Python, Pyspark* **Jan. 2021**
- Implemented an Item-item collaborative filtering algorithm using Pyspark to predict users' rates on IMDB dataset.
- Implemented a Collaborative filtering algorithm using Pyspark Map and Reduce framework.

Technical Skills

Programming Languages: Python, C/C++, HTML/CSS, JavaScript, Typescript

Technologies/Frameworks: Linux, Pytorch, Tensorflow, Pyspark, Numpy, OpenCV, Scikit-learn, Visual Studio, Rabbit-MQ, K8s, Docker

Languages: Mandarin(native), English(TOEFL 109/120)

Extracurriculars

National Tsing Hua University Concert Band **Mar. 2019 – Sep. 2019**
Bassoonist *National Tisng Hua University*
- Won the 2nd place in a national music competition in concert band, group B.

National Tsing Hua University CS Orientation Camp **Aug. 2019 – Sep. 2019**
Team Leader *National Tsing Hua University*