HAO WEN

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OBJECTIVE

I am a graduated Master student from University of Florida, and I am actively seeking for a **Ph.D.** or remote **Research Assistant** position in AI and Internet of Things (IoT) related domain.

EDUCATION

M.Sc. in Electrical Computer Engineering, University of Florida
 Sep. 2019 - Dec. 2021
 Courses: Pattern Recognition, Advanced Data Structure, Image Processing & Computer Vision, and IoT Design.
 GPA: 3.63/4.0

B.Eng. in Artificial Intelligence & Technology, South China University of Technology Sep. 2015 - Jul. 2019 GPA: 3.26/4.0

Thesis: Electronic equipment failure detection and forecast analysis using SVM and LSTM

WORK EXPERIENCE

 Machine Learning and Software Back-end Engineer
 Jun. 2022 - Jun. 2023

 China Merchants Bank (CMB)
 Shenzhen, China

 Designed a real-time multi-task system to detect different applications' reliability and availability in millisecond-wise
 with HMM.

- Managed the massive growth of semi-structured configuration data on 256 cluster servers from "CMB mobile" (招商银行 APP) (A popular application with 100 million users) using MongoDB APIs within **Java**.
- Segmented serialized data into fine-grained metrics using a Hidden Markov Model (HMM) to evaluate the reliability and availability of "CMB mobile", improving the precision of detecting vulnerable systems by 3%.
- Deployed a few-shot learning chatbot to help developers efficiently analyze risks and diagnose runtime issues.
- Developed a data retrieval and visualization service website using RESTful APIs with SpringBoot, providing troubleshooting accessibility for developers.

RESEARCH EXPERIENCE

Research Intern

STCA NLP Group

Apr. 2021 - Aug. 2021 Chinese Academy of Sciences, China

- Improved a bidirectional Transformer based model, and further applied it for a Machine translation task with 1 BLEU score improved.
- Improved a knowledge-aware Dialogue Generation task based on Questioning Answering, applied it for multimodal tasks with an overall improved performance.

PUBLICATIONS

• Xiao Hu¹, Hao Wen¹, "Research on Model Compression for Embedded Platform through Quantization and Pruning" (ICAITA) [Paper] [Code]

COURSE PROJECTS & COMPETITION

Model Compression Related Work

Nov. 2020 - Apr. 2021

• Constructed a CNN model on the embedded platform for image recognition, **quantized** the model to reduce overall running (Inference + Evalution) time on GPU while maintaining accuracy.

- Rebuilt a model based on Yolo-v3 for video recognition through Pruning, and gained a faster running speed on GPU without reducing accuracy.
- Achieved the training time of the quantified AlexNet model reduced by 30% amid accuracy declined only 0.08.
- Improved the precision of Yolo-v3 model after pruning, achieved the recognition of each frame reduced by about 2 latency FPS and reached a more accurate recognition of the objects in a video than the original model.
- Collabrated in writing a paper and published on ICAITA 2021.

Kaggle Competition on Severity of Comments [Code]

Nov. 2021 - Jan. 2022

- Compared a pretrained RoBERTa model with TFIDF+Ridge Regression Model on various level of data cleansing, and proved RoBERTa's efficiency and accuracy on extracting comprehensive emotions from a single comment.
- Evaluated different pretrained BERT-like model for Upstream Task: RoBERTa, DeBERTa, Electra, then combined a CNN for downstream tasks to fine-tune, finally reached a 0.80893 accuracy on LeaderBoard.

TECHNICAL SKILLS

Libraries & Tools	Git, LATEX, MySQL, MongoDB
Frameworks	Pytorch, wandb, mmcv, opencv2, SpringBoot
Languages	Java, Python, SQL, Shell Script, JavaScript, HTML5/CSS, MATLAB

HONORS & AWARDS

- "Phosphor Honor" New Star Employee, CMB Co. Ltd.
- Kaggle "Jigsaw Rate Toxic Severity of Comments": Silver Medal, (Top 2%, 18/2301).
- The 6th China International College Students "Internet+" Innovation and Entrepreneurship Competition, Silver Medal: (Top 3%)