Peng(Richard) Xia

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EDUCATION

Soochow University   Suzhou, China
Bachelor of Science in Computer Science and Engineering   *Sept. 2019 - Expected Jun. 2023*
- **GPA**: 3.7/4.0   **Average Score**: 88.13/100
- **Coursework**: Deep learning, Neural Network, Machine Learning, Computer Vision, Algorithms
- **Advisors**: Prof. Min Zhang, Dr. Juntao Li, Dr. Junhui Li

National University of Singapore   Singapore
The University Alliance of the Silk Road (UASR) Summer Courses   *Jun. 2022 - Jul. 2022*
- **Grade**: 90%
- **Coursework**: Drug discovery for Ocular Angiogenic Diseases, Animal Models of CardioVascular Disease
- **Advisors**: Dr. Xiaomeng Wang, Dr. Jiong-Wei Wang

RESEARCH EXPERIENCE

Chinese Grammatical Error Correction | *Natural Language Processing*   Dec. 2021 – Apr. 2022
- Obtained training sets of large scale and fine grit by data augmentation
- Compressed a Seq2Seq model and improved its robustness by knowledge distillation
- Submitted a preprint to arXiv 2208.00351. [arXiv]   [Code]

Neural Chat Translation | *Natural Language Processing*   Sept. 2021 – Feb. 2022
- Trained on WMT20 and fine-tuned on chat translation corpus (BConTrasT and BMELD).
- Modeled the properties, such as role preference, dialogue coherence, and translation consistency

Lane Detection and Vehicle Departure Warning System | *Computer Vision*   Oct. 2021 – Sept. 2021
- Used the cascaded convolutional neural network to detect lane lines
- Designed a warning module for the system in case the car deviates from the lane

Fatigue Driven Detection Based on Huawei Atlas 200 DK | *Computer Vision*   Sept. 2021 – Dec. 2021
- Used multi-task cascaded convolutional network for face detection and feature point location
- Used convolutional neural network to detect the state of the eyes and mouth from ROI images

COMPETITION ACHIEVEMENTS

Shanghai-HK Interdisciplinary Shared Tasks "Trigger Identification"   Apr. 2022 - Jun. 2022
1st place(phase 1) & 3rd place(phase 2)   *Hong Kong & Shanghai, China*
- Used the BigBird model for the message representation and mean pooling
- Added extra linear layers and used R-Drop which is a simple and efficient regularization technique

The 3rd Huawei DIGIX AI Algorithm Contest   Aug. 2021 - Sept. 2021
Second Prize   *Nanjing, China*
- Designed an article quality discrimination algorithm to predict and discriminate the categories of articles
- Based on BERT model and PU Learning.

Computer Design Contest   Jan. 2021 – Mar. 2021
Winning Prize   *Zhenjiang, China*
- Used BERT model to encode vehicle track data to predict lane trajector
- Designed and displayed the effect of the web page, using HTML, CSS, JavaScript

Mathematical Contest In Modeling   Feb. 2021
Honorable Mention   *Bedford, USA*
- Established models to explore the effects of fungi's various characteristics, environments and diversity
- Used algorithms to fit and process data about fungi; analyzed the relevant variables and came to a conclusion

Work Experience

Airdoc Technology Inc   Jul. 2022 – Present
Algorithm Intern   *Shanghai, China*
- Trained multi-modal models for detecting for several diseases by fundus images and clinical data
- Collaborated with colleagues or doctors to write related patents and papers

China Construction Bank   Jul. 2021 – Aug. 2021
Intern   *Yancheng, China*
- Participated in lobby service, customer marketing, product promotion, merchant development
- Participated in the summer rural practice program

Patents

Article quality discrimination software based on multi-model transfer pre-training   Feb. 2022
NLP Research Centre, Soochow University   *Suzhou, China*
- Junhui Li, **Peng Xia**, Kaide Zeng, et al.
- CN Software Copyright. 2022SR0228307.

Lane detection system based on cascaded convolutional neural network.   Feb. 2022
NLP Research Centre, Soochow University   *Suzhou, China*
- Junhui Li, **Peng Xia**, Kaide Zeng.
- CN Software Copyright. 2022SR0248890.

Volunteer and campus experience

Science and Technology Association, Soochow University   Oct. 2020 – Jul. 2021
Vice President   *Suzhou, China*
- Organized several large-scale activities, such as English drama competition for freshmen
- During my tenure, the organization won the award of excellent branch association of the university

Youth League Committee, Soochow University   Sept. 2020 – Oct. 2020
Volunteer for the 120th anniversary of Soochow University   *Suzhou, China*
- Prepared supplies for the school's anniversary event
- Received guests; took event reports

Skills

Programming Skills: Python, JavaScript, Java, HTML, CSS, SQL, LaTeX, Git, Shell, Vim
Frameworks&Libraries: PyTorch, TensorFlow, Kerass, OpenCV, PIL, NumPy, Matplotlib, Scikit-learn
Language Skills: English(IELTS Total 6.5, CET-6 Total 539), Mandarin(native)