Jiancong He

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Application for: Research Assistant / PhD Student

Research Interests

Machine Learning Classifier, Natural Language Processing, Biostatistics

Education

Guangdong University of Technology Sep 2017 - Jun 2020
Control Engineering Master Faculty of Automation GuangZhou
- GPA: 3.46 / 4.00
- Honor: First Prize of Excellent Student (2018)

Guangdong University of Technology Sep 2013 - Jun 2017
Automation Bachelor Faculty of Automation GuangZhou
- GPA: 3.34 / 4.00
- Honor: Second Prize of Excellent Student (2014-2017)

Research Experience

Driving Drowsiness Classification Using EEG Jan 2018 - Apr 2018
Visiting student in National University of Singapore Singapore

- Collecting EEG data of 20 subjects in the simulated driving environment using MATLAB Toolbox.
- Building the Boosting Transfer Learning model using Python package scikit-learn. Comparing the model with SVM, Adaboost and TrAdaBoost Algorithms in terms of classified accuracy.
- Publishing a paper *Boosting Transfer Learning Improves Performance of Driving Drowsiness Classification Using EEG* in International Workshop on Pattern Recognition in Neuroimaging (PRNI), 2018 (EI)

Application of NLP Regarding Educational Information Jan 2019 - Dec 2019
Research Assistant in CVTE Central Research Insititute Guangzhou

- Math Word Problem Solver
  - Developing the math word problem solver with Seq2Seq (Bi-LSTM and Bi-GRU) model and attention mechanism using PyTorch
  - Boosting the accuracy from 66.5% to 72.5% by following methods:
    - Exploiting per-training word embedding trained by FastText or GloVe
    - Draw upon the data argument by modifying some insignificant token
    - Utilizing grid search for optimal hyper parameters
    - Taking advandage of Dropout technology for regularization
- Text Segmentation and Classification
  - Using the word embedding generated by BERT as features and training Bi-LSTM model to segment the text and a model based on FastText to conduct text classification task

Publications and Patents

Papers

J. He et al., "Boosting Transfer Learning Improves Performance of Driving Drowsiness Classification Using EEG," 2018 International Workshop on Pattern Recognition in Neuroimaging (PRNI), 2018, pp. 1-4, doi: 10.1109/PRNI.2018.8423951.

Patents

He jiancong, Zhou Guoxu A dialogue question answering method, device, equipment and storage medium, zl201811139032.4

Working Experience

HSBC Sep 2021 - Present
HSBC Technology China Guangzhou
Data Privacy Preserving Computation Utility

- Secret Sharing
- Private Set Intersection (PSI)
  - Avoid double targeting customers between entities within HSBC
  - Drawing upon SHA256 to hash the customer's information and Bloom Filter to check out whether customer has been engaged with other entities within HSBC
  - Deployment in Alicloud and Google Cloud Platform through Kubernetes

Relevant Skills

- IT Skills: Python, Linux, MATLAB, Latex, C++, Web Development
- Languages: English (CET-6), Cantonese (native), Mandarin(native)

Github and Homepage

Github: https://github.com/HoKinChung
Personal Website: https://hokinchung.github.io/