Zheng **Li**

PHD CANDIDATE

CYT3007, HKUST, Kowloon, Hong Kong SAR, China

(+852) 52247068 · (+86) 13726226449 | zlict@cse.ust.hk | hsqmlzno1.github.io | hsqmlzno1 | **Google Scholar**

Research Interests

My current research focuses on developing deep transfer learning methods to enhance **L**ow-**R**esource **N**atural **L**anguage **P**rocessing (**LR-NLP**) performances, including **cross-domain**, **cross-lingual** and **cross-task** settings. Revolving around this goal, I mainly study the following topics:

- **Machine Learning**: transfer learning, especially domain adaptation, meta-learning, multi-task learning, graph embedding
- **Natural Language Processing**: sentiment analysis, opinion mining, information extraction, question answering

Education

Hong Kong University of Science and Technology (HKUST) — *Hong Kong SAR*

PH.D. CANDIDATE, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING. — *Aug. 2016 - Jun. 2020*

- Supervisor: Prof. **Qiang Yang**.

Sun Yat-Sen University (SYSU) — *Guangzhou, China*

B.S., DEPARTMENT OF DATA AND COMPUTER SCIENCE — *Aug. 2012 - Jun. 2016*

Excellent thesis awards & Excellent undergraduate awards

Working Experience

Google Research, NLX Group — *Mountain View, USA*

RESEARCH INTERN — *Jan. 2020-Apr. 2020*

2020 Summer internship

Amazon Search (A9), Search and NLP Group - Query Understanding — *Palo, Alto, CA, USA*

APPLIED SCIENTIST INTERN, SUPERVISED BY BING YIN AND HEADDEN, WILL — *Seq. 2019-Dec. 2019*

Research topic: Exploiting Multi-Lingual Representations for Low-Resource Search Query Understanding via Meta Learning

Microsoft Research Asia (MSRA) - Multimedia Search and Mining Group — *Beijing, China*

RESEARCH INTERN, SUPERVISED BY DR. **MEI TAO** — *Jun. 2015 - Sep. 2015*

Research topic: DNN-based visual tracking.

HKUST FOK YING TUNG Research — *Guangzhou, China*

RESEARCH INTERN, SUPERVISED BY PROF. **QIANG YANG** — *Jun. 2016 - Aug. 2016*

- Develop a Coffee Tag Cloud system for LaiYe based on Heroku and Django, which can automatically capture important tags from the dialogs when ordering coffee. (**Demo** & **Samples**: **1**, **2**, **3**)
- Develop machine learning methods for solving the imbalanced multi-label classification problem, which can achieve about 82% Micro-F1.

Publications

Transferable E2E Aspect-based Sentiment Analysis with Selective Adversarial Learning — *EMNLP'19 (Long paper, oral)*

ZHENG LI, XIN LI, YING WEI, LIDONG, BING, YU ZHANG, QIANG YANG — *May. 2019*

- Explore an unsupervised domain adaptation for E2E-ABSA, which jointly learns aspect terms along with their sentiments across domains.
- Formulate it as adaptation in sequence labeling based on the unified tagging scheme and propose a **Selective Adversarial Learning** (SAL) method for fine-grained (word-level) adaptation, which can improve the model without SAL about **6-10%** Micro-F1 among 12 transfer pairs.

Exploiting Coarse-to-Fine Task Transfer for Aspect-level Sentiment Classification — *AAAI'19, oral*

ZHENG LI, YING WEI, YU ZHANG, XIANG ZHANG, XIN LI, QIANG YANG — *Feb. 2019*

- Introduce a cross-domain & cross-task setting for fine-grained sentiment analysis and release a new data resource.
- Propose a **Coarse-to-Fine (C2F) attention** which can capture more specific semantics from the context towards the aspect category, which achieves the SOTA (1st palce on 2018 Nov & 3rd place at present) in SemEval'14 Task 4 ABSA challenges. (**Data** & **Ranking** (MGAN).)

Hierarchical Attention Transfer Network for Cross-domain Sentiment Classification — *AAAI'18, oral*

ZHENG LI, YING WEI, YU ZHANG, QIANG YANG — *Feb. 2018*

- Propose a multi-task learning framework (**Classification** & **Adversarial** & **Co-occurrence Learning**) to capture both domain-invariant and domain-specific users' emotional information, which achieves the SOTA in multi-domain Amazon review dataset.
- Develop an attention visualization system based on Hightchart, which can automatically capture the variations of users' emotional expressions across domain (**Code** & **Video** & **Demo**).

End-to-End Adversarial Memory Network for Cross-domain Sentiment Classification — *IJCAI'17, oral*

ZHENG LI, YU ZHANG, YING WEI, YUXIANG WU, QIANG YANG — *Aug. 2017*

- Propose an end-to-end framework to automatically capture pivot words based on the attention mechanism and adversarial training.

Compressive Perceptual Hashing Tracking *Neurocomputing'17*

Zheng Li, Long Chen, Jian-Fei Yang *2017*

Online Visual Tracking via Correlation Filter with Convolutional Networks *VCIP'17, oral*

Zheng Li, Jianfei Yang, Juan Zha, Chang-Dong Wang, Weishi Zheng *May. 2017*

- Demo

Compressive Perceptual Hashing Tracking with Online Foreground Learning *ROBIO'15, oral*

Zheng Li, Jian-Fei Yang, Long Chen, Juan Zha *Nov. 2015*

- Homepage & Demo

Robust Vehicle Tracking Using Perceptual Hashing Algorithm *ICMLA'15, oral*

Zheng Li, Jianfei Yang, Long Chen, Juan Zha *Aug. 2015*

Long-Term Revenue Maximization Pricing Scheme for Cloud *IJSSE journal*

Wen-Kai Huan, Chang-Dong Wang, Shao-Shu Huan, **Zheng Li**, Jian-Huang Lai, Ling Huang *Aug. 2015*

Scholarships, Honors & Awards

Nov. 2018 **Baidu PhD Fellowship Nomination Awards**, Baidu, awarded to about 20/5000 applicants all over the world.
2017-2019 **AAAI Travel grants 2018, 2019, IJCAI Travel grants 2017.**,
Jun. 2016 **Outstanding Bachelor Awards**, Sun Yat-sen University
Jun. 2016 **Outstanding Bachelor Thesis Awards**, Sun Yat-sen University
Aug. 2015 **China Intelligent Design Competition, Second Prize**, Awarded to Top 5% teams from China
Nov. 2015 **"YongSheng Liu" Outstanding Undergraduate Scholarship**, Top 1% student in DCS Department
Sep. 2015 **First-class Merit Scholarship**, Top 5% student in DCS Department, Sun Yat-sen University
Sep. 2014 **Second-class Merit Scholarship**, Top 10% student in DCS Department, Sun Yat-sen University
Sep. 2014 **ACM-ICPC Competition, Third Prize**, Sun Yat-sen University
Sep. 2013 **Third-class Merit Scholarship**, Top 20% student in DCS Department, Sun Yat-sen University

Talks

Aug. 2018 **Transfer learning for Fine-grained Sentiment Analysis**, Invited talk at WeBank
Mar. 2019 **Exploiting Coarse-to-Fine Task Transfer for Aspect-level Sentiment Classification**, Invited talk at the AAAI'19 sharing forum organized by the Hong Kong Society of Artificial Intelligence and Robotics (HKSAIR)

Professional Services

- **Program Committee**: AAAI 2020, ICLR 2020
- **Journal Reviewer**: TBD 2019, JASIST 2019, TALRLIP 2019
- **Conference Secondary Reviewer**: AAAI 2019, IJCAI 2019

Skills

- **Deep learning frameworks**: tensorflow, keras, pytorch, theano, dynet
- **Programming language**: python, matlab, c&c++
- **Others**: highchart (visualization), django, js, shell script