

Mingyu Derek MA 馬明宇

CONTACT INFORMATION	Room 959, 4676 Admiralty Way Marina del Rey CA 90292	Homepage: mingyu.ma E-mail: mingyu.ma@usc.edu
EDUCATION	University of Southern California <i>PhD in Computer Science</i> • Advisor: Dr. Nanyun Peng The Hong Kong Polytechnic University (PolyU) <i>Bachelor of Science in Computing (First Class Honours)</i> • GPA: 3.74/4.0 • Research and project advisors: Prof. Qin Lu, Prof. Jiannong Cao, Dr. Henry C. B. Chan, Dr. Grace Ngai • Thesis: <i>A Sentiment Analysis Model to Better Utilize User Profile and Product Information</i> (Outstanding Project Award, Top 1 in the Dept. of Computing) [Institutional Research Archive] • Graduate representative for valedictory speech at the university congregation [Video]	Los Angeles, CA <i>Aug. 2019 - Present</i> Hong Kong <i>Aug. 2014 - Jun. 2018</i>
	University of Maryland <i>Exchange Study, Computer Science</i>	College Park, MD <i>Aug. - Dec. 2016</i>
PUBLICATIONS [Google Scholar]	[4] Dual Memory Network Model for Sentiment Analysis of Review Text [Web] [PDF] Jiaxing Shen*, Mingyu Derek Ma* , Rong Xiang, Qin Lu, Elvira Perez Vallejos, Ge Xu, Chu-Ren Huang, Yunfei Long. <i>Knowledge-Based Systems</i> , 2019. [3] Implicit Discourse Relation Identification for Open-domain Dialogues [Web] [PDF] Mingyu Derek Ma , Kevin K. Bowden, Jiaqi Wu, Wen Cui, Marilyn Walker. <i>Annual Meeting of the Association for Computational Linguistics (ACL)</i> , 2019. [2] Dual Memory Network Model for Biased Product Review Classification [Web] [PDF] Yunfei Long*, Mingyu Ma* , Qin Lu, Rong Xiang, Chu-Ren Huang. <i>Conference on Empirical Methods in Natural Language Processing (EMNLP) Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis (WASSA)</i> , 2018. [1] BloCHIE: a BLOCKchain-based platform for Healthcare Information Exchange [Web] [PDF] Shan Jiang, Jiannong Cao, Hanqing Wu, Yanni Yang, Mingyu Ma, Jianfei He. <i>IEEE International Conference on Smart Computing (SMARTCOMP)</i> , 2018.	
	*: equal contribution	
AWARDS & HONORS	Outstanding Project Award (Top 1 in the department, 1/100), Best Capstone Project Competition, PolyU Department of Computing Hong Kong Government Scholarship Fund Talent Development Scholarship Silver Award, Hong Kong ICT Awards Student Innovation Award (Tertiary or Above), Hong Kong Gov. Winner (10/150), Hong Kong Techathon, PolyU and City Univ. of HK CMA (The Chinese Manufacturers' Association of Hong Kong) & Donors Scholarship (3/400) Best Creative Service Project (Top 1 in the Greater China), Youth Volunteer Service Conference Champion and Most Innovative Award of Hong Kong, Imagine Cup, Microsoft Undergraduate Summer Research Abroad Sponsorship, PolyU Champion, Smart Computing Competition, PolyU Chinese Mainland and Overseas Activities Fund, PolyU Commercial Radio 50th Anniversary Scholarship (1/400) Wong Tit-Shing Student Exchange Scholarship, PolyU	<i>Jun. 2018</i> <i>May 2018</i> <i>Mar. 2018</i> <i>Jan. 2018</i> <i>Jan. 2018</i> <i>Nov. 2017</i> <i>Jul. 2017</i> <i>May 2017</i> <i>Apr. 2017</i> <i>Nov. 2016</i> <i>Oct. 2016</i> <i>Apr. 2016</i>
WORK EXPERIENCE	University of Southern California Information Sciences Institute <i>Graduate Research Assistant</i> • Working on DARPA funded KAIROS project on event ontology induction The Chinese University of Hong Kong (CUHK) Human-Computer Communications Lab <i>Research Assistant to Prof. Helen Meng</i> V-ASK: A Voice-Enable Oral Health Survey NLP Application for Personalized Advice, Service, and Knowledge • Researched and developed dialogue system for health survey specifically for Cantonese speaking elderly people • Developed domain-specific language model, ASR and keyword spotter	Marina del Rey, CA <i>Aug. 2019 - Present</i> Hong Kong <i>Jan. - Jul. 2019</i>

University of California, Santa Cruz Natural Language and Dialogue Systems Lab Santa Cruz, CA
Research Intern to Prof. Marilyn Walker Jun. - Nov. 2018

Implicit Discourse Relation Identification for Open-domain Dialogues [3]

- Automatically constructed dataset of discourse relation argument pairs from dialogue corpus, evaluated on MTurk
- Utilized features uniquely in dialogue systems to help the discourse relation identification

Actor Disambiguation for SlugBot in Amazon Alexa Prize Competition

- Developed algorithm to disambiguate common noun or phrase to provide better response for generic user utterances

The Hong Kong Polytechnic University Dept. of Computing Chinese Computing Lab Hong Kong
Capstone Project Student to Prof. Qin Lu Sep. 2017 - Jun. 2018

Dual Memory Network Model for Product Review Classification [2, 4] [Web]

- Designed a dual memory network model with external memory mechanism for sentiment analysis utilizing related documents of users and products; constructed hierarchical LSTM networks to obtain document embeddings
- Implemented LSTM networks and memory networks using TensorFlow and achieved the state-of-the-art accuracy

Massachusetts Institute of Technology Geospatial Data Center Cambridge, MA
Research Intern to Dr. Abel Sanchez and Prof. John R. Williams Jul. - Aug. 2017

A Learning and Grading Solution for Engineering Computation Education [Web]

- Designed a system to optimize practicing and grading flow and collect behavioural data for programming course
- The system developed has been deployed in the MIT 1.00 course for three semesters successfully

The Hong Kong Polytechnic University Internet and Mobile Computing Lab Hong Kong
Research Assistant to Prof. Jiannong Cao Jan. 2017 - Jun. 2018

Learning Representations of Categorical Symbols by Adversarially Encoding Attribute Association

- Designed an adversarial learning algorithm to learn distributed embedding for categorical symbols in data mining task; the model includes a discriminator, a generator and the optimization algorithm
- Implemented the algorithm in Python and evaluated the performance in terms of classification task on datasets from UCI ML repository, and achieved better performance than other state-of-the-art embedding methods

Blockchain-based Layered-federation Distributed Data Sharing for Huawei [1] [Web]

- Constructed Blockchain system from scratch to do data publishing, sharing and requesting tasks as lead developer
- Used Python, Django and gRPC to implement functions like blocks packing and tracking, encryption, P2P network, file transfer and UI

Sohu, Inc. (a NASDAQ listing online media and Internet services group) Shanghai, China
Front-end Web Development and Graphic Design Intern Jun. - Jul. 2016

PROFESSIONAL SERVICES Program Committee Member, Reviewer

- DeepLo (Deep Learning for Low-resources NLP) workshop at EMNLP2019
- EMNLP2019

Webmaster

- Creative Computing Co-working Space, PolyU Computing [Web]

Student Volunteer

- SoCal (Southern California) NLP Symposium 2019

TALKS

Implicit Discourse Relation Identification for Open-domain Dialogues [3]

- SoCal (Southern California) NLP Symposium, Los Angeles, CA Sep. 2019

Sense+ Computer Vision App for the Visually Impaired

- Hong Kong ICT Awards Product Presentation and Panel Discussion, Hong Kong Apr. 2018
- Hong Kong Trade Development Council International ICT Expo, Hong Kong Apr. 2018
- InnoCarnival: one of the 4 highlight projects for PolyU, Hong Kong [More] Oct. 2017

MEDIA COVERAGE

ViuTV Hong Kong: Computer Vision vs Human Eyes Challenges Nov. 2017

AM730, CCTV (China Central Television), Oriental Daily News, Sky Post, Ming Pao, Ta Kung Pao, unwire.hk, Sing Tao Daily, IT Pro Magazine, Cool Blind Tech, on.cc, ifeng.com, Wen Wei Po, PolyU News : Computer vision app helping the visually impaired Sep. 2017