Haiwei Ma

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Education

2015–present PhD, Computer Science & Engineering, University of Minnesota.
Advisor: Svetlana Yarosh. Expected graduation dates: 12/2021.

2015–2019 Master of Science, Computer Science & Engineering, University of Minnesota.

2011–2015 Bachelor of Engineering, Computer Science & Technology, Shanghai Jiao Tong University.

Publications

Journal Articles

2021 **Haiwei Ma,** Svetlana Yarosh. A Review of Affective Computing Research Based on Function-Component-Representation Framework, *IEEE Transactions on Affective Computing*, Received minor revisions.

2020 **Haiwei Ma,** Sunny Parawala, Svetlana Yarosh. Detecting Expressive Writing in Online Health Communities by Modeling Aggregated Empirical Data, *Proceedings of the ACM on Human-Computer Interaction*, Accepted.

2020 C Smith, Zachary Levonian, **Haiwei Ma**, Robert Giaquinto, Gemma Lein-Mcdonough, Zixuan Li, Susan O'Conner-Von, and Svetlana Yarosh. " i cannot do all of this alone": Exploring instrumental and prayer support in online health communities. *arXiv preprint arXiv:2005.11884*, 2020.

2017 **Haiwei Ma**, C Estelle Smith, Lu He, Saumik Narayanan, Robert A Giaquinto, Roni Evans, Linda Hanson, and Svetlana Yarosh. Write for life: Persisting in online health communities through expressive writing and social support. *Proceedings of the ACM on Human-Computer Interaction*, volume 1, pages 1–24. ACM New York, NY, USA, 2017.

Conference Papers

2019 **Haiwei Ma**, Hao-Fei Cheng, Bowen Yu, and Haiyi Zhu. Effects of anonymity, ephemerality, and system routing on cost in social question asking. *Proceedings of the ACM on Human-Computer Interaction*, volume 3, pages 1–21. ACM New York, NY, USA, 2019.

2017 Sarah McRoberts, **Haiwei Ma**, Andrew Hall, and Svetlana Yarosh. Share first, save later: Performance of self through snapchat stories. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, pages 6902–6911, 2017.

2016 Li-Li Wang, Wei-Long Zheng, **Hai-Wei Ma**, and Bao-Liang Lu. Measuring sleep quality from eeg with machine learning approaches. In *2016 International Joint Conference on Neural Networks (IJCNN)*, pages 905–912. IEEE, 2016.

Extended Abstracts

2019 **Haiwei Ma**, Bowen Yu, Hao Fei Cheng, and Haiyi Zhu. Understanding social costs in online question asking. In *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems*, pages 1–6, 2019.

2018 Changye Li, Zachary Levonian, **Haiwei Ma**, and Svetlana Yarosh. Condition unknown: Predicting patients' health conditions in an online health community. In *Companion of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing*, pages 281–284, 2018.

2016　Baris Unver, Sarah A McRoberts, Sabirat Rubya, **Haiwei Ma**, Zuoyi Zhang, and Svetlana Yarosh. Sharetable application for hp sprout. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems*, pages 3784–3787, 2016.

Research Experience

1　Detecting expressive writing in online health communities by modeling aggregated data.
Conducted a meta-analysis to collect aggregated linguistic features of expressive writing.
Built a Gaussian naive Bayes model based on meta-analysis results to detect expressive writing.
Developed a codebook to label expressive writing in the wild and tested the performance of the classifier.
Applied logistic regression to study what factors affected expressive writing.

2　Building a conceptual framework to organize the literature of affective computing.
Reviewed over 2000 papers searched from ACM and IEEE digital libraries to filter out irrelevant ones.
Proposed a theoretical framework (function-component-representation) to organize the literature.
Coded 1110 papers based on the framework.
Summarized research progress and discussed insights and future directions.

3　Understanding how expressive writing and social support influence user engagement.
Developed classifiers to detect deceased sites which ended due to patients' literal deaths.
Applied survival regression to study how expressive writing and social support influenced user engagement.

4　Examining effects of anonymity, ephemerality, and system routing on cost in social Q&A.
Built a social Q&A web platform using Ruby on Rails.
Conducted experiments to test effects of anonymity, ephemerality, and system routing on social costs.
Applied linear regression models to analyze the user data.

Teaching Experience

Spring 2020　CSCI 1913: Introduction to Algorithms and Data Structures.
Fall 2019　CSCI 1913: Introduction to Algorithms and Data Structures.
Summer 2019　MSBA 6310: Programming for Data Science.
Spring 2019　SENG 5115: Graphical User Interface Design.
Spring 2018　CSCI 1913: Introduction to Algorithms and Data Structures.

Industry Experience

Summer 2018　Software Engineer Intern, *Vital Images, Inc*.
Built convolutional neural networks to differentiate benevolent and cancerous lung nodules.

Related skills

Programming Languages　Python, C, C++, C#, Java, R, Matlab, Ruby, HTML, CSS, Javascript
Framework　Scikit-learn, NLTK, Gensim, LIWC, TensorFlow, Django, Ruby on Rails
Database　MySQL, SQLite, PostgreSQL, MongoDB
Analysis　Grounded theory method, Meta-analysis
Other　Android app development

Fellowships & Awards

2015　University of Minnesota College of Science and Engineering Graduate Fellowship.
2014　Third Prize, "The Pisen Cup" Mobile Application Design Competition.
2014　Honorable Mention, Interdisciplinary Contest in Modeling.

Patents

2014   Yanmin Zhu, Hongyu Gong, Zehua Bei, **Haiwei Ma**. A type of slides' control method & system. CN104077143A.

2014   Yanmin Zhu, **Haiwei Ma**, Zehua Bei, Hongyu Gong. A type of gesture detection method & system. CN104111733A.

Service

Reviewer   CSCW 2018, CSCW 2019, CHI 2019 LBW, CSCW 2020, CHI 2020, CSCW 2021.