

# Xiangmin Fan

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Ph.D., Associate Professor  
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## EMPLOYMENT

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**Associate Professor** Jul. 2017- Present

- HCI Lab, Institute of Software, Chinese Academy of Sciences (Major Appointment)
- University of Chinese Academy of Sciences (Adjunct Appointment)
- **Supported by CAS 100 Talents Program (中国科学院“百人计划”)**

**Research Intern** Summer 2016 & Summer 2015

- Bosch Research (Pittsburgh), USA
- Mentors: Dr. Lisa Yu and Dr. Ji Eun Kim

**Graduate Student Researcher and Instructor** Aug. 2011-May 2017

- Department of Computer Science, University of Pittsburgh, USA
- Advisor: Dr. Jingtao Wang

## EDUCATION

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**Ph.D., Computer Science** Aug. 2011-May 2017

- University of Pittsburgh, USA
- Dissertation Topic: Scalable Teaching and Learning via Intelligent User Interfaces
- Committee: Dr. Jingtao Wang (Chair), Dr. Diane Litman, Dr. Milos Hauscrecht, Dr. Muhsin Menekse

**Exchange Undergraduate Student, Computer Science** Sep. 2010-Dec. 2010

- Nanyang Technological University, Singapore

**B.S., Computer Science** Sep. 2007-Jun. 2011

- Shandong University, China

## RESEARCH INTERESTS

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Human-Computer Interaction, Intelligent User Interfaces, Mobile Interfaces, Interactive Machine Learning, and their applications in Education and Healthcare.

## PUBLICATIONS

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Jin Huang, Feng Tian, **Xiangmin Fan**, Xiaolong (Luke) Zhang, and Shumin Zhai. **Understanding the Uncertainty in 1D Unidirectional Moving Target Selection**. In *Proceedings of the 36<sup>th</sup> Annual ACM Conference on Human Factors in Computing Systems (CHI 2018)*.

Liuping Wang, **Xiangmin Fan**, Feng Tian, Lingjia Deng, Shuai Ma, Jin Huang, and Hongan Wang. **mirrorU: Scaffolding Emotional Reflection via In-Situ Assessment and Interactive Feedback**. In *Proceedings of the 36<sup>th</sup> Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA 2018)*.

Jing Gao, Feng Tian, Junjun Fan, Dakuo Wang, **Xiangmin Fan**, Yicheng Zhu, Shuai Ma, Jin Huang, and Hongan Wang. **Implicit Detection of Motor Impairment in Parkinson's Disease from Everyday Smartphone Interactions**. In *Proceedings of the 36<sup>th</sup> Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA 2018)*.

Nianlong Li, Feng Tian, Jin Huang, **Xiangmin Fan**, and Hongan Wang. **2D-BayesPointer: An Implicit Moving Target Selection Technique Enabled by Human Performance Modeling**. In *Proceedings of the 36<sup>th</sup> Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA 2018)*.

**Xiangmin Fan**, Wencan Luo, and Jingtao Wang. **Mastery Learning of Second Language Through Asynchronous Modeling of Native Speakers in a Collaborative Mobile Game**. In *Proceedings of the 35<sup>th</sup> Annual ACM Conference on Human Factors in Computing Systems (CHI 2017)*.

**Xiangmin Fan**, Wencan Luo, Muhsin Menekse, Diane Litman and Jingtao Wang. **Scaling Reflection Prompts in Large Classrooms via Mobile Interfaces and Natural Language Processing**. In *Proceedings of 22<sup>nd</sup> ACM Conference on Intelligent User Interfaces (IUI 2017)*.

Ji Eun Kim, **Xiangmin Fan**, and Daniel Mosse. **Empowering End Users for Social Internet of Things**. In *Proceedings of 2017 IEEE Second International Conference on Internet-of-Things Design and Implementation (IoTDI 2017)*.

**Xiangmin Fan**, Youming Liu, Nan Cao, Jason Hong, and Jingtao Wang. **MindMiner: A Mixed-Initiative Interface for Interactive Distance Metric Learning**. In *Proceedings of the 15<sup>th</sup> IFIP International Conference on Human-Computer Interaction (INTERACT 2015)*.

**Xiangmin Fan**, Wencan Luo, Muhsin Menekse, Diane Litman and Jingtao Wang. **CourseMIRROR: Enhancing Large Classroom Instructor-Student Interactions via Mobile Interfaces and Natural Language Processing**. In *Proceedings of the 33<sup>rd</sup> Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA 2015)*.

**Xiangmin Fan**, and Jingtao Wang. **BayesHeart: A Probabilistic Approach for Robust, Low-Latency Heart Rate Monitoring on Camera Phones**. In *Proceedings of 20<sup>th</sup> ACM Conference on Intelligent User Interfaces (IUI 2015)*.

**Xiangmin Fan**, Youming Liu, Nan Cao, Jason Hong, and Jingtao Wang. **MindMiner: Quantifying Entity Similarity via Interactive Distance Metric Learning**. In *Proceedings of 20<sup>th</sup> ACM Conference on Intelligent User Interfaces Companion (IUI Companion 2015)*.

Wencan Luo, **Xiangmin Fan**, Muhsin Menekse, Jingtao Wang, and Diane Litman. **Enhancing Instructor-Student and Student-Student Interactions with Mobile Interfaces and Summarization**. In *Proceedings of the 2015 Conference of the North American Chapter of the Association for Computational Linguistics – Human Language Technologies (NAACL 2015)*.

## **SELECTED TALKS & PRESENTATIONS**

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**Toward Next Generation Mobile Learning**. Keynote, The 2017 Workshop on Human-Machine Interaction between Korea and China, Tianjin, China. Dec. 26<sup>th</sup>, 2017

**Mastery Learning of Second Language Through Asynchronous Modeling of Native Speakers in a Collaborative Mobile Game**. Oral Presentation, The 35th Annual ACM Conference on Human Factors in Computing Systems (CHI 2017), Denver, USA. Apr. 25<sup>th</sup>, 2017

**Scalable Teaching and Learning via Intelligent User Interfaces**. Invited Talk, HCI Group @Lenovo Research, Beijing, China. Dec. 23<sup>rd</sup>, 2016

**Scalable Teaching and Learning via Intelligent User Interfaces.** Invited Talk, School of Computer Science and Technology, Shandong University, Jinan, China. *Dec. 20<sup>th</sup>, 2016*

**Scalable Teaching and Learning via Intelligent User Interfaces.** Invited Talk, Pervasive Interaction Lab@ Tsinghua University, Beijing, China. *Dec. 19<sup>th</sup>, 2016*

**Scalable Teaching and Learning via Intelligent User Interfaces.** Guest Lecture for CS2610: Research Topics in Human Computer Interaction, Department of Computer Science, University of Pittsburgh, Pittsburgh, USA. *Nov. 15<sup>th</sup>, 2016*

**Mastery Second Language Learning through Asynchronous Modeling of Native Speakers in a Collaborative Mobile Game.** CS Day Poster Presentation (**Winner of CS Day Poster Competition**), Department of Computer Science, University of Pittsburgh, Pittsburgh, USA. *Mar. 18<sup>th</sup>, 2016*

**Intelligent User Interfaces for Scalable Teaching and Learning.** Guest Lecture for CS2610: Research Topics in Human Computer Interaction, Department of Computer Science, University of Pittsburgh, Pittsburgh, USA. *Nov. 11<sup>th</sup>, 2015*

**Socialite: End-User Programming in the Social Internet of Things.** Internship Talk, Bosch Research and Technology Center, Pittsburgh, USA. *Aug. 17<sup>th</sup>, 2015*

**CourseMIRROR: Enhancing Large Classroom Instructor-Student Interaction via Mobile Interfaces and Natural Language Processing.** Invited Exhibition and Demonstration, 16th IEEE International Conference on Mobile Data Management (MDM 2015), Pittsburgh, USA. *Jun. 16<sup>th</sup>, 2015*

**CourseMIRROR: Enhancing Large Classroom Instructor-Student Interaction via Mobile Interfaces and Natural Language Processing.** Poster Presentation, The 33<sup>rd</sup> Annual ACM Conference on Human Factors in Computing Systems (CHI 2015), Seoul, Korea. *Apr. 21<sup>st</sup>, 2015*

**MindMiner: Quantifying Entity Similarity via Interactive Distance Metric Learning.** Demonstration, The 20<sup>th</sup> ACM Conference on Intelligent User Interfaces Companion (IUI 2015), Atlanta, USA. *Mar. 30<sup>th</sup>, 2015*

**BayesHeart: A Probabilistic Approach for Robust, Low-Latency Heart Rate Monitoring on Camera Phones.** Oral Presentation, The 20<sup>th</sup> ACM Conference on Intelligent User Interface (IUI 2015), Atlanta, USA. *Apr. 1<sup>st</sup>, 2015*

**CourseMIRROR: Enhancing Large Classroom Instructor-Student Interaction via Mobile Interfaces and Natural Language Processing.** CS Day Lightning Talk (**Winner of CS Day Graduate Student Research Competition**), Department of Computer Science, University of Pittsburgh, Pittsburgh, USA. *Mar. 27<sup>th</sup>, 2015*

**Next Generation Mobile Language Learning – Tutoring Systems and Infrastructure Support.** Invited Exhibition and Demonstration, The Inaugural Meeting and Symposium of the Global Learning Council (2014), Carnegie Mellon University, Pittsburgh, USA. *Sep. 4<sup>th</sup>, 2014*

**Designing Engaging Camera Based Mobile Games for Implicit Heart Rate Monitoring.** Poster Presentation, The 32<sup>nd</sup> Annual ACM Conference on Human Factors in Computing Systems (CHI 2014), Toronto, Canada. *Apr. 28<sup>th</sup>, 2014*

**MindMiner: A Mixed-Initiative Interface for Interactive Distance Metric Learning.** CS Day Lightning Talk (**Winner of CS Day Graduate Student Research Competition**), Department of Computer Science, University of Pittsburgh, Pittsburgh, USA. *Mar. 21<sup>st</sup>, 2014*

## TEACHING

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**Instructor,** Designing, Prototyping and Evaluating Human-Machine Interfaces, University of Chinese Academy of Sciences

- Graduate Level Course

*Spring 2018*

- Instructor**, Designing Intelligent User Interfaces, University of Chinese Academy of Sciences
- Graduate Level Course *Fall 2017*
- Instructor**, Introduction to Human-Computer Interaction, University of Chinese Academy of Sciences
- Upper Level Undergraduate Course *Fall 2017*
- Teaching Assistant**, Research Topics in HCI (CS2610), University of Pittsburgh
- Instructor: Dr. Jingtao Wang *Fall 2016*
- Teaching Assistant**, Introduction to System Software (CS449), University of Pittsburgh
- Instructor: Dr. Wonsun Ahn *Fall 2016*
- Teaching Assistant**, Interface Design Methodology (CS1635), University of Pittsburgh
- Instructor: Dr. Jingtao Wang *Spring 2014*
- Recitation Instructor**, Introduction to System Software (CS449), University of Pittsburgh
- Instructor: Dr. Jonathan Misurda *Spring 2014*
- Teaching Assistant**, Structure of Programming Languages (CS1621), University of Pittsburgh
- Instructor: Dr. Youtao Zhang *Fall 2013*
- Recitation Instructor**, Data Structures (CS445), University of Pittsburgh
- Instructor: Dr. John Ramirez *Spring 2013*
- Recitation Instructor**, Intermediate Programming Using Java (CS401), University of Pittsburgh
- Instructor: Dr. John Aronis *Fall 2012*
- Recitation Instructor**, Data Structures (CS445), University of Pittsburgh
- Instructor: Dr. George Novacky *Summer 2012*
- Teaching Assistant**, Introduction to Simulations (CS1538), University of Pittsburgh
- Instructor: Dr. Rebecca Hwa *Fall 2011*
- Teaching Assistant**, Structure of Programming Languages (CS1621), University of Pittsburgh
- Instructor: Dr. Youtao Zhang *Fall 2011*

## **SOFTWARE RELEASES**

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### **CourseMIRROR: A Mobile System to Promote and Scale Reflection Prompts in Large Classes**

- Free for Classroom Usage, Deployed in 10 Classes (400+ Students)
- iOS & Android Versions Available: <http://www.coursemirror.com>

### **BayesHeart: A Robust, Low-Latency Heart Rate Monitoring Algorithm on Camera Phones**

- Source Code & Dataset Available: <http://mips.lrdc.pitt.edu/bayesheart/>

### **Busgazer: A Realtime Transit App for Pittsburghers**

- Serve 20k+ Local Users
- iOS & Android Versions Available: <http://www.busgazer.com>

### **CrowdGrammar: Leveraging Crowd Workers for Proofreading Tasks**

- <http://www.crowdgrammar.com>

## **HONORS & AWARDS**

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- CAS 100 Talents Program, Chinese Academy of Sciences, 2017
- Winner of Bezirk Hackathon, Bosch Research and Technology Center (Pittsburgh), 2016

- Winner of CS Day Poster Competition, Department of Computer Science, University of Pittsburgh, 2016
- Winner of CS Day Research Competition, Department of Computer Science, University of Pittsburgh, 2015
- Student Travel Grants, 16<sup>th</sup> IEEE International Conference on Mobile Data Management, 2015
- Winner of CS Day Research Competition, Department of Computer Science, University of Pittsburgh, 2014
- Graduate Student Fellowship, University of Pittsburgh, 2012
- Honorable Mentions, Mathematical Contest in Modeling (MCM/ICM 2010), USA, 2010
- CVIC SE Scholarship, CVIC Software Engineering Co., Ltd., 2010
- Scholarship of Scientific Research Innovation, Shandong University, 2010
- Honorable Mentions, National Undergraduate Mathematical Contest in Modeling, China, 2009
- Weichai Power Scholarship, Weichai Power Co., Ltd., 2009
- 1<sup>st</sup> Grade Award of the Students' Scholarship, Shandong University, 2008

## **PROFESSIONAL ACTIVITIES**

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- Co-Organizer: Workshop on Deep Learning Visualization @ ICML 2017
- Co-Chair: Chinese CHI 2017-2018 (Poster and Demo)
- Program Committee: Chinese CHI 2018, IUI 2018 (Demo)
- Reviewer: CHI 2015-2018, DIS 2018, IUI 2017-2018, ICMI 2015, TiiS 2017-2018
- Student Volunteer: CHI 2014-2016
- Coordinator: Weekly HCI Group Seminar, University of Pittsburgh, 2014-2015

## **REFERENCES**

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- Dr. Jingtao Wang, Assistant Professor, University of Pittsburgh, [jingtaow@cs.pitt.edu](mailto:jingtaow@cs.pitt.edu)
- Dr. Diane Litman, Professor, University of Pittsburgh, [litman@cs.pitt.edu](mailto:litman@cs.pitt.edu)
- Dr. Muhsin Menekse, Assistant Professor, Purdue University, [menekse@purdue.edu](mailto:menekse@purdue.edu)
- Dr. Ji Eun Kim, Principle Research Scientist, Bosch Research, [JiEun.Kim@us.bosch.com](mailto:JiEun.Kim@us.bosch.com)
- Dr. Lisa Yu, Research Scientist, Bosch Research, [Lisa.Yu@us.bosch.com](mailto:Lisa.Yu@us.bosch.com)