Fanjie Li

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EDUCATION

Master's Degree, *The University of Hong Kong, Hong Kong S.A.R.* Sep. 2018 - Feb. 2020

- M.Sc., Library and Information Management (Distinction)
- Specialist Strand: Data Science (GPA: 4.17/4.30)

Bachelor's Degrees, *Sichuan University, Chengdu, China* Sep. 2014 - Jul. 2018

- B.Mgt., Information Resource Management (GPA: 3.79/4)
- B.Eng., Software Engineering (GPA: 3.73/4)

Visiting Student, *The University of Hong Kong, Hong Kong S.A.R.* Jul. 2017 - Aug. 2017

- Advisor: Dr. Xiao Hu

Summer Student, *University of Notre Dame, South Bend, USA* Jul. 2016 - Aug. 2016

- International Summer Undergraduate Research Experience (iSURE) Program
- Lab: Social Sensing Lab; Advisor: Dr. Dong Wang

RESEARCH INTERESTS

Learning analytics, Learning technologies, Human computer interaction, Human-centred design, Affective computing, Music information retrieval

APPOINTMENTS & SERVICES

Research Assistant, *The University of Hong Kong, Hong Kong S.A.R.* Sep. 2020 - Present

- Affiliation: CCMIR Lab (Director: Dr. Xiao Hu)
- Department: Faculty of Education

Research Assistant, *HKU SIRI, Shenzhen, China* Mar. 2020 - Jun. 2020

Conference Reviewer

- The 21st International Society for Music Information Retrieval Conference *(ISMIR '20)* Jun. 2020

PUBLICATIONS

Conference Papers

1. **Li, F.**, Hu, X., & Que, Y. (2020). Learning with Background Music: A Field Experiment. In *Proceedings of the 10th International Conference on Learning Analytics & Knowledge (LAK '20)* (pp. 224-229). Frankfurt, Germany: ACM.
2. Hu, X., **Li, F.**, & Kong, R. (2019). Can Background Music Facilitate Learning? Preliminary Results on Reading Comprehension. In *Proceedings of the 9th International Conference on Learning Analytics & Knowledge (LAK '19)* (pp. 101-105). Tempe, AZ, USA: ACM.
3. Hu, X., **Li, F.**, & Ng, T. D. J. (2018). On the Relationships between Music-induced Emotion and Physiological Signals. In *Proceedings of the 19th International Society for Music Information Retrieval Conference (ISMIR '18)* (pp. 362-369). Paris, France: ISMIR.

Journal Articles

4. **Li, F.** & Li, G. (2017). Deep Reading: Controversy and Reconsideration. *Journal of the National Library of China*, *26*(6), 16-25. doi: 10.13666/j.cnki.jnlc.2017.06.002.

PRESENTATIONS

Conference Posters/Abstracts

1. **Li, F.** & Hu, X. (2019). A Field Experiment on Music Preference during Learning. In *CITE Research Symposium 2019 (CITERS '19)* (Parallel Session 1- Paper Presentation). Hong Kong.
2. **Li, F.**, Ng, T. D. J., & Hu, X. (2017). Emotion-Aware Music Information Retrieval Based on Physiological Signals and User Profile. In *the 18th International Society for Music Information Retrieval Conference (ISMIR '17)* (Late-Breaking/Demo). Suzhou, China: ISMIR.

RESEARCH EXPERIENCE

Master's Thesis | A Field Experiment on Music Preference during Learning ***PI:*** *Fanjie Li*

- This study aims to a) profile the music preference of learners in view of potential individual differences, and b) investigate the association between music characteristics and listeners' learning experience.
- Highlights:
  1) Designed and developed the Moody music app (iOS client with a Flask-based backend and the MySQL database) to facilitate longitudinal data collection in naturalistic settings.
  2) Performed acoustic analysis on the 10k music pool and estimated music emotion in the arousal-valence space via Support Vector Machines (SVM).
  3) Collected users' sedentary state, heart rate, etc. using Fitbit Versa smartwatch.
  4) Implemented the Multitasking test using PsychoPy based on specifications in literature, and refined an existing Python-based N-Back Test for assessing participants' working memory capacity.
  5) Conceived the conceptual framework. Performed data cleansing and analysis using Python and R.

Leveraging Background Music for Learning: An Interdisciplinary Approach ***PI:*** *Dr. Xiao Hu*

- Contributed to a laboratory experiment in this project. The experiment aims to probe the effects of five different types of background audio on reading comprehension.
- Major contributions:
  1) Experiment facilitator: performed the experiment to collect:
     a) a series of cognitive, metacognitive, and affective variables using self-reported measures,
     b) a set of peripheral physiological signals recorded by Empatica E4 wristband, and
     c) participants' eye movement recorded by the Tobii eye tracker.
  2) Data analysis: Physiological signal processing and statistical hypothesis testing.

Music Recommender Systems Based on Physiological Signals ***PI:*** *Dr. Xiao Hu*

- This project aims to enhance the emotion-aware music recommendation via physiological sensing.
- Major contributions:
  1) Designed and performed a user experiment to build a dataset with synchronized physiological signals (BVP, HR, IBI, EDA, TEMP) and user-labelled music-induced emotion.
  2) Data analysis: Physiological signal processing, music signal processing, built the music emotion recognition (MER) model using machine learning methods.

Deep Reading: Theoretical Conceptualization and Implications for Practices ***PI:*** *Prof. Guihua Li*

- This is a subproject of a NSSFC-funded study (No. 16ATQ005) which focuses on youth reading behaviour in the Omni-media Era and strategies for reading promotion.
- Major contributions:
  1) Discussed (i) major controversies in the conceptualization of *deep reading* based on a systematic literature review and K-Means clustering of expert survey responses and (ii) the mechanisms

underlying *deep reading* in terms of (a) the cognitive-affective process inside the reading brain and (b) reading as a social process.

2) Participated in the coding process of a grounded theory study regarding youth reading behaviour.
3) Participated in the design and implementation of a reading planner app: EverRead (supported by the National College Students' Innovation and Entrepreneurship Training Program).

TEACHING DEVELOPMENT

Developing and Evaluating Interdisciplinarity and Internationalization (I&I) in the Curriculum of Bachelor of Arts and Sciences in Social Data Science

- This teaching development project aims to enhance the interdisciplinary and internationalized learning experience in the B.A.Sc. Social Data Science program.
- Current duties:
  1) Develop the I&I assessment framework based on a thorough literature review;
  2) Design the teacher/student interview protocol, teacher/student surveys, and document analysis protocols (sample documents: student assignment, course materials);
  3) Develop repositories of interdisciplinary topics and datasets for students' capstone projects.

HONOURS & AWARDS

A. SCHOLARSHIP

- National Scholarship (2015), SCU First Prize Scholarship (2016), Wang-Wen-Guo Scholarship for Students Enrolled in Interdisciplinary Programs (2017)

B. OTHERS - SELECTED

- Honorary admission, Wu Yuzhang Honors College at Sichuan University (Top 1.5%)
- Outstanding Students Award, Sichuan University (2015, 2016, 2017)
- Women in MIR (WiMIR) Travel Grants, ISMIR (2017)
- Outstanding Graduates Award, Sichuan University (2017)
- Outstanding Undergraduate Thesis Award, Sichuan University (2018)
- Dean's Honours list, The University of Hong Kong (2020)

SKILLS

A. PROGRAMMING & SOFTWARE

- Python & Essential data science packages (e.g., Pandas, NumPy, Scikit-Learn, Seaborn), R, SQL
- Swift, HTML, CSS, JavaScript, Java, C
- iOS App development, Music signal processing, Physiological signal processing
- Jupyter Notebooks, Gephi, RapidMiner, SPSS, Flask, MySQL, Axure, Adobe Creative Suite

B. OTHERS

- UI/UX design, Graphic design, Photography
- Ability to play various instruments (Chinese zither: Guzheng, Ukulele)

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