Pei-Chi Lo

🕿 (+65)87311237 • ✉ academic@peichilo.com • 🏠 peichilo.com

SUMMARY

Pei-Chi is a highly-motivated computer science PhD student with an interest to pursuing an academic career in a research university. She was affiliated with the Living Analytic Research Centre (LARC) of Singapore Management University (SMU), and actively involved in smart social and urban analytics related research projects. She holds strong research interest in **knowledge graph-based information retrieval**, **user profiling**, and **computational linguistics**. She has published papers in internationally recognized conferences and journals including SIGIR, TOIS and ICWSM.

EDUCATION

Singapore Management University   **Singapore, Singapore**
PhD in Computer Science, School of Computing and Information Systems   *Jan 2018-Present*
Thesis: Connecting The Dots for Contextual Information Retrieval, supervised by Prof. Ee-Peng Lim

National Sun Yat-sen University   **Kaohsiung, Taiwan**
M.B.A., Management in Information Systems   *Sep 2015-Jul 2016*
Thesis: Quality Analysis and Prediction of User Reviews Using Discourse Structure, supervised by Prof. San-Yih Hwang [link]

National Sun Yat-sen University   **Kaohsiung, Taiwan**
B.A., Management in Information Systems   *Sep 2011-Jun 2015*

PUBLICATIONS

- **Lo, Pei-Chi**, & Lim, Ee-Peng (2023). Non-Monotonic Generation of Knowledge Paths for Context Understanding. ACM Transactions on Management Information Systems *(Conditionally Accepted)*.
- **Lo, Pei-Chi**, & Lim, Ee-Peng (2023). A Transformer Framework for Generating Context-Aware Knowledge Graph Paths. Applied Intelligence *(Accepted)*.
- **Lo, Pei-Chi**, Lee, Yang-Yin, Chen, Hsien-Hao, Kwee, Angus Trisnajaya, & Lim, Ee-Peng (2023). Contrastive Learning Approach to Word-in-Context Task for Low-Resource Languages. In AAAI Workshop on Knowledge Augmented Methods for NLP (KnowledgeNLP-AAAI'23).
- Hsieh, Lee-Hsun, Chua, Nam-Chew, Kwee, Angus Trisnajaya, **Lo, Pei-Chi**, Lee, Yang-Yin & Lim, Ee-Peng (2022). Singlish Checker: A Tool for Understanding and Analysing an English Creole Language. In The 24th International Conference on Asia-Pacific Digital Libraries.
- **Lo, Pei-Chi**, & Lim, Ee-Peng (2022). Your Cursor Reveals: On Analyzing Workers' Browsing Behavior and Annotation Quality In Crowdsourcing Tasks. IEEE Access.
- **Lo, Pei-Chi**, & Lim, Ee-Peng (2022). Contextual Path Retrieval: A Contextual Entity Relation Embedding-based Approach. ACM Transactions on Information Systems.
- Silva, Amila, **Lo, Pei-Chi**, & Lim, Ee-Peng (2021). On Predicting Personal Values of Social Media Users using Community-Specific Language Features and Personal Value Correlation. Proceedings of the International AAAI Conference on Web and Social Media, 15(1), 680-690.
- **Lo, Pei-Chi**, & Lim, Ee-Peng (2020). Co-Embedding Attributed Networks with External

Knowledge. 2020 IEEE International Conference on Big Data (Short Paper).
- **Lo, Pei-Chi**, & Lim, Ee-Peng (2020). Interactive Entity Linking Using Entity-Word Representations. In Proceedings of the 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval (pp. 1801-1804).
- Silva, Amila, **Lo, Pei-Chi**, & Lim, Ee-Peng (2020). JPLink: on linking jobs to vocational interest types. In Pacific-Asia Conference on Knowledge Discovery and Data Mining (pp. 220-232).
- **Lo, Pei-Chi**, & Lim, Ee-Peng (2018). On learning psycholinguistics tools for english-based creole languages using social media data. In 2018 IEEE International Conference on Big Data (pp. 751-760).
- Lai, Chia-Yu, **Lo, Pei-Chi**, & Hwang, San-Yih, Incorporating Comment Text into Success Prediction of Crowdfunding Campaigns (2017). In 2017 Pacific Asia Conference on Information Systems. 156.

WORKING PAPERS

Knowledge Graph-based Reasoning with Large Language Models
Target Venue: ACM SIGIR

- Explore the ability to reason with knowledge graphs of Large Language Models, including GPT-3 and Flan models.
- Design effective prompting strategy for KG-based reasoning.
- Analyze the disparities between Large Language Models and traditional fine-tuned models

Enhancing Crowdsourced Annotation Quality using Behavior-based Intervention
Target Venue: ACM Conference On Computer- Supported Cooperative Work And Social Computing

- Propose an intervention strategy based on behavioral theories which aims to improve crowdsourced annotation quality.
- Design a performance meter as intervention that shows predicted annotation quality given by a behavior-based prediction model.
- Conduct user study to collect real-world data on self-built user interface.
- Research supported by Lee Kong Chian Professorship, SMU.
- Human study reviewed and approved by Institutional Review Board, SMU.

TEACHING & MENTORING EXPERIENCE

Senior Teaching Assistant   **Singapore**
Research Topics in Information Systems, Singapore Management University   *Apr-Jul 2020*

- Organized and led weekly discussions for first-year PhD students on research topics.
- Evaluated and critiqued students on their presentation skills.
- Taught a session on presentation slide planning and design.

Graduate Instructor Foundations in Teaching Program (GIFT)   **Singapore**
Centre of Teaching Excellence, Singapore Management University   *May 2020*

- Completed pre-training activities including teaching observation and reading assessment.
- Undertook training sessions covering teaching foundations, instructional strategies, course planning, and student assessment design.

- Passed the post-training assessment which included a 4-minute video presentation on lesson design of my own discipline [video link].

Senior Teaching Assistant   **Singapore**
IS112 - Data Management, Singapore Management University   *Apr-Jul 2020*

- Assisted lecturers in test and project assessment.

Teaching Assistant   **Taiwan**
MIS205 - Database Management, National Sun Yat-sen University   *Jan-Jun 2016*

- Assisted lecturers in test and project assessment.
- Tutored students and held office hours.

Organizer and Lecturer   **Taiwan**
New Research Assistant Training, National Sun Yat-sen University   *Jul-Aug 2016*

- Organized and led a six-week training camp for perspective undergraduate and Master's research assistants in the research lab.
- Taught training classes including Python programming, MVC web application development, basic Linux system operation, and foundations of data mining.
- Planned assessments including assignments and post-training projects.

Undergraduate Mentor   **Taiwan**
National Sun Yat-sen University   *Jan-Jun 2015*

- Tutored undergraduate students with programming-related questions.

Lecturer   **Taiwan**
MIS Summer Camp for High Schoolers, National Sun Yat-sen University   *Jul 2014,2015*

- Taught lessons on presentation skills.
- Planned learning activities, evaluated and provided feedbacks on campers' presentations.

Lecturer   **Taiwan**
Web Application Design Club, National Sun Yat-sen University   *Feb-Jul 2013*

- Planned and taught lesson in web application programming, including Javascript and PHP+MySQL programming.
- Mentored junior club members on team projects.

PROFESSIONAL EXPERIENCE

Living Analytic Research Centre, SMU   **Singapore, Singapore**
Research Engineer   *Jul-Dec 2017*

- Collaborated with external research agencies.
- Developed models for learning Singlish (an English creole language) words and their meaning from user-generated content, including tweets and online forum posts.
- Developed linguistic inquiry and word count toolkit (S-LIWC) to measure psychometric profiles from content generated by Singlish speaking users.
- Conducted user surveys to collect user content and profile label data for developing and evaluating prediction models for personality traits.
- Published three conference papers based on the experiments and findings in this project.

Department of Information Systems, NSYSU   **Kaohsiung, Taiwan**
Research Assistant   *Jul 2016-Jun 2017*

- Collaborated with industry and created a social listening system.
- Designed and maintained the system backend, including database system and server deployment.
- Developed real-time topic modeling and sentiment detection tools on online forums and news.
- Trained and supervised master's and undergraduate students to build a natural language processing web application for academic researchers.

Undergraduate & Post-graduage Assistantship, NSYSU   **Kaohsiung, Taiwan**
Research Assistant, Institute of Political Science   *May 2015-Jun 2017*

- Assistant to Prof. Titus C. Chen, conducting analysis on human rights interpretation in Chinese politics.
- Assistant to Prof. Dachi Liao, conducting inter-disciplinary research on text mining in political science.
- Developed Crawler to gather text data from multiple sources, including *People's Daily*, *Wenweipo*, and Chinese judicial documents/court verdicts.
- Analyzed and visualized newspaper articles and official documents with LDA topic modeling.
- Mentored post-graduate students to complete course projects on political analysis with information technology, including research topic identification, data preparation, and research method design (IPS553 - Politics and Information).
- Designed and developed web-based text mining tools for researchers in political science domain.

Mail Server Administrator, Office of Library and Information Services   *Jul 2014-Sep 2015*

- Assisted maintenance of the university mail system and related services, including system development and task scheduling.
- Performed the above in the FreeBSD and Ubuntu system environments.

System Administrator, Computer Center of College of Management   *Feb 2012-Jun 2015*

- Assisted maintenance of network environment, including router setup and troubleshooting.
- Designed and developed information systems and web applications.
- Maintained classroom equipments.
- Organized monthly workshops and training for new staffs.
- Performed the above in CentOS, Windows and Ubuntu environments.

AWARDS & SCHOLARSHIPS

- Finalist, Legal-Tech Hackathon, LawsNote   *Sep 2021*
- PhD Full Scholarships, Singapore Management University   *2018-21*
- Five-Year BA-MA Program Scholarship, National Sun Yat-sen University   *2015-16*

GRANTS

- Singlish Learning by Crowdsourcing, DSO National Laboratories, Singapore, **Co-Investigator**, 2020, SGD$612,300
- Research on Cross-Lingual Opinion Mining (多語言意見探勘的研究), Ministry of Science and Technology (MOST), Taiwan, **Co-author of Proposal**, 2017, TWD$2,665,000

PROFESSIONAL SERVICES

- **Reviewer**. Thirty-Sixth AAAI Conference on Artificial Intelligence, 2021
- **Reviewer**. Electronic Commerce Research and Applications, 2021
- **Reviewer**. Thirty-Fifth AAAI Conference on Artificial Intelligence, 2020

LANGUAGES

- English - Full Professional Proficiency
- Mandarin - Native
- Japanese - Limited Working Proficiency. Passed JLPT N2.

REFERENCES

Ee-Peng Lim, Lee Kong Chian Professor of Computer Science
School of Computing and Information Systems, Singapore Management University
(+65)68280781, eplim@smu.edu.sg

San-Yih Hwang, Professor
Department of Information Management, National Sun Yat-sen University
(+886)7-5252000 ext.4723, syhwang@mis.nsysu.edu.tw

Jing Jiang, Professor
School of Computing and Information Systems, Singapore Management University
(+65)68280785, jingjiang@smu.edu.sg

Yuan Fang, Assistant Professor
School of Computing and Information Systems, Singapore Management University
(+65)68085150, yfang@smu.edu.sg