Jiaxuan Li

Master student, Department of Computer Science
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Education

Stevens Institute of Technology, State of New Jersey, United States

Ph.D., computer science — Sep. 2020 to Sep. 2021

As a result of the US PP10043 ban, I cannot obtain a visa and withdraw from the program.

Harbin Institute of Technology，Shenzhen, China

M.S., computer science, exemption from entrance examination — Sep. 2017 to Jan. 2020

Supervisor: Dr. Philippe Fournier-Viger

Hai Nan University, Hainan, China

B.S., computer science — Sep. 2013 to Jul. 2017

Supervisor: Dr. Yucong Duan

Publications

- Anti-Asian Hate Speech Detection via Data Augmented Semantic Relation Inference. **Jiaxuan Li+,** Yue Ning*. *Proc. 16st Intern. (AAAI) Conf. on Web and Social Media (ICWSM), AAAI,* 2022. Accepted.

- A Survey of Pattern Mining in Dynamic Graphs. Philippe Fournier-Viger*, Ganghuan He, Chao Cheng, **Jiaxuan Li**, Jerry Chun-Wei Lin, Unil Yun. *WIREs Data Mining and Knowledge Discovery, Wiley*, 2019.

- Efficiently Extracting Cost-Effective patterns from Sequential Event Log. Philippe Fournier-Viger*, **Jiaxuan Li**+, Jerry Chun-Wei Lin, Tin Truong Chi, R. Uday Kiran. *Knowledge-Based Systems (KBS,Q1), Elsevier*, 2019**.**

- Discovering and Visualizing Patterns in Utility Sequences. Philippe Fournier-Viger*, **Jiaxuan Li**+, Jerry Chun-Wei Lin, Tin Truong Chi. *Proc. 21st Intern. Conf. on Data Warehousing and Knowledge Discovery (DAWAK), Springer*, 2019.

- Discovering low-cost high utility patterns. **Jiaxuan Li**+, Philippe Fournier-Viger*, Lin, Jerry Chun-Wei Lin, Tin Truong Chi. *1st International Workshop on Utility-Driven Mining (UDM), in conjunction with the KDD 2018 conference, ACM press*, 2018. **Oral presentation.**

*Academic supervisor, + main student contributor.

Research & Industry Experience

- **Golaxy Data Technologies** — Jul. 2020 to May. 2021

  Affiliation with Institute of Computing Technology, Chinese Academy of Sciences

  Mentor: Shaolong Zhou

  – Integrate entity category and relative position information as features and construct a Bert-CRF baseline model for comparison experiments.
  – Construct a multi-head selection with a bilinear layer to solve the entity nesting problem.
  – Construct a cascade classification network to identify entities and their corresponding types, and a multi-head selection network to extract complex entity relation pairs.

- **Harbin Institute of Technology, Shenzhen** Sep. 2017 to Jan. 2020

  Mentor: Dr. Philippe Fournier-Viger

  - **Cost-effective pattern mining** Mar. 2018 to Jul. 2018
    - Mining cost-effective pattern from event logs in E-learning to provide insights about how to utilize the learning materials.
    - Combined a cost model into high utility sequential pattern mining considering the resources, effort, time or cost required to apply the patterns for getting a desirable utility.
    - Designed statistical measures to assess the correlation between utility and cost for the needs of different applications in terms of the type of utility (binary or numeric).
    - Integrated buffer structure into Prefixspan algorithm and designed pruning strategy to improve algorithms' performance in terms of memory usage and execution time.
  - **Cost-effective pattern mining from heterogeneous data source** Jul. 2019 to Dec. 2019
    - Mining guidance patterns in e-learning from heterogeneous data source for specific group of users.
    - Combining users' attributes, such as personal information and educational background, with their learning activities.
    - Clustering users based on their attributes and mining cost-effective patterns from their sequences of activities respectively to assist different group of users use materials efficiently.
    - Representing the concatenated features using vector and utilizing a statistical measure to evaluate the correlation between the feature and utility.
    - Currently designing the model and searching potential datasets for testing.
- **Noah'Ark Lab, Huawei Technologies** Aug. 2019 to Nov. 2019

  Mentor: Dr. Min Zhou

  - Spatial-temporal sequence pattern mining in telecommunication network to compress alarm records, identify important alarms, and locate root-cause alarms.
  - Using dynamic attributes graph as an approach to mine important sequences of alarms that have a higher priority to be responded from various network equipment, meanwhile keeping the topology of the network.
  - Designing correlation measure and generating potential correlated sequence rules of alarms to identify the root-cause alarms.
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- **2012 Lab, Huawei Technologies** Jun. 2019 to Aug. 2019

  Mentor: Dr. Zixian Zhang

  - Designed, implemented and tested a function for automatically extracting and checking the CAD drawings' content about servers to improve the manual inspection's accuracy.
  - Analyzed about 5 types of drawings. Extracted their components' data structure using ActiveX and mined different components' crucial features, respectively.
  - Based on those features, implemented algorithms to structurally extract contents in specified areas, compared those information with the official documents, and finally generated a detailed verification report.
  - Checked the operating specifications of the drawings, such as the intersection between texts and lines, missing arrows, and manual errors, such as the absence of a component's description or missing a component that should be contained in the drawing.
  - Tested about 100 drawings, and now this feature was integrated into their production system.

Selected Awards

- Outstanding graduates of Hainan University, 2017.
- Mathematical Contest in Modeling Certificate of Achievement, Honorable Mention, 2016.