

Meng-Chieh (Jeremy) Lee

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GitHub: <https://github.com/mengchillee>

EDUCATION *Carnegie Mellon University* Pittsburgh, PA
Ph.D., Computer Science Department Aug 2021 - Present
Advisors: Christos Faloutsos and Leman Akoglu

Carnegie Mellon University Pittsburgh, PA
Research Scholar, Information Systems and Public Policy Aug 2019 - Aug 2020
Advisors: Christos Faloutsos and Leman Akoglu

National Chiao Tung University Hsinchu, Taiwan
M.S., Computer Science and Engineering July 2017 - July 2019
Advisor: Vincent S. Tseng

National Taiwan Normal University Taipei, Taiwan
B.S., Computer Science and Information Engineering Sept 2013 - June 2017

AWARDS AND GRANTS **2022 IEEE Visualization Conference (IEEE VIS)**
Best Paper Honorable Mention Oct 2022

2021 IEEE Visualization Conference (IEEE VIS)
Best Poster Honorable Mention Oct 2021

AWS Cloud Credit for Research
\$19,000 AWS Credits, and my project Linear First is involved Sept 2021

National Chiao Tung University
Dean's List Award Feb 2019

- REFEREED PUBLICATIONS APPEARED
1. **Lee, M.C.**, Shekhar, S., Yoo, J., and Faloutsos, C., "Discovery and Exploitation of Generalized Network Effects". *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, 2024.
 2. Posam, L., Shekhar, S., **Lee, M.C.**, and Faloutsos, C., "DiffFind: Discovering Differential Equations from Time Series". *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, 2024.
 3. **Lee, M.C.***, Zhao, L.*, Akoglu, L., "Descriptive Kernel Convolution Network with Improved Random Walk Kernel". *ACM Web Conference (WWW)*, 2024.
 4. **Lee, M.C.**, Yu, H., Zhang, J., Ioannidis, V.N., Song, X., Adeshina, S., Zheng, D., and Faloutsos, C., "NetInfoF Framework: Measuring and Exploiting Network Usable Information". *International Conference on Learning Representations (ICLR)*, 2024. (Spotlight)
 5. Cazzolato, M., Vijayakumar, S., **Lee, M.C.**, Vajiac, C., Park, N., Fidalgo, P., Traina, A., and Faloutsos, C., "CallMine: Fraud Detection and Visualization of Million-Scale Call Graphs". *ACM International Conference on Information and Knowledge Management (CIKM)*, 2023.

6. Yoo, J.*, **Lee, M.C.***, Shekhar, S., and Faloutsos, C., “Less is More: SLIMG for Accurate, Robust, and Interpretable Graph Mining”. *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2023.
7. Vajiac, C., **Lee, M.C.**, Kulshrestha, A., Levy, S., Park, N., Olligschlaeger, A., Jones, C., Rabbany, R., and Faloutsos, C., “DELTA SHIELD: Information Theory for Human-Trafficking Detection”. *ACM Transactions on Knowledge Discovery from Data (TKDD)*, 2023.
8. Cazzolato, M., Vijayakumar, S., Zheng, X., Park, N., **Lee, M.C.**, Chau, D.H., Fidalgo, P., Lages, B., Traina, A., and Faloutsos, C., “TGRAPP: Anomaly Detection and Visualization of Large-Scale Call Graphs”. *AAAI Conference on Artificial Intelligence (AAAI)*, 2023.
9. Cazzolato, M., Vijayakumar, S., Zheng, X., Park, N., **Lee, M.C.**, Fidalgo, P., Lages, B., Traina, A., and Faloutsos, C., “TgraphSpot: Fast and Effective Anomaly Detection for Time-Evolving Graphs”. *IEEE International Conference on Big Data (BigData)*, 2022.
10. Vajiac, C., Chau, D.H., Olligschlaeger, A., Mackenzie, R., Nair, P., **Lee, M.C.**, Li, Y., Park, N., Rabbany, R., A., and Faloutsos, C., “TrafficVis: Visualizing Organized Activity and Spatio-Temporal Patterns for Detecting and Labeling Human Trafficking”. *IEEE Visualization Conference (IEEE VIS)*, 2022. (Best Paper Honorable Mention)
11. Nair, P., Li, Y., Vajiac, C., Olligschlaeger, A., **Lee, M.C.**, Park, N., A., Chau, D.H., Faloutsos, C., and Rabbany, R., “VisPaD: Visualization and Pattern Discovery for Fighting Human Trafficking”. *ACM International World Wide Web Conference (WWW)*, 2021.
12. **Lee, M.C.***, Shekhar, S.*, Faloutsos, C., Hutson, T.N., and Lasemidis, L., “GEN²OUT: Detecting and Ranking Generalized Anomalies”. *IEEE International Conference on Big Data (BigData)*, 2021.
13. **Lee, M.C.**, Nguyen, H., Berberidis, D., Tseng, V.S., and Akoglu, L., “GAWD: Graph Anomaly Detection in Weighted Directed Graph Databases”. *IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM)*, 2021.
14. Vajiac, C., Olligschlaeger, A., Li, Y., Nair, P., **Lee, M.C.**, Park, N., Rabbany, R., A., Chau, D.H., and Faloutsos, C., “TrafficVis: Fighting Human Trafficking through Visualization”. *IEEE Visualization Conference (IEEE VIS)*, 2021. (Best Poster Honorable Mention)
15. **Lee, M.C.***, Vajiac, C.*, Kulshrestha, A., Levy, S., Park, N., Jones, C., Rabbany, R., and Faloutsos, C., “INFOSHIELD: Generalizable Information-Theoretic Human-Trafficking Detection”. *37th IEEE International Conference on Data Engineering (ICDE)*, 2021.
16. **Lee, M.C.**, Zhao, Y., Wang, A., Liang, P.J., Akoglu, L., Tseng, V.S., and Faloutsos, C., “AUTOAUDIT: Mining Accounting and Time-Evolving Graphs”. *IEEE International Conference on Big Data (BigData)*, 2020.
17. **Lee, M.C.**, Huang, Y., Ying, J.J.C., Chen, C., and Tseng, V.S., “DeepIdentifier: A Deep Learning-Based Lightweight Approach for User Identity Recognition”. *15th International Conference on Advanced Data Mining and Applications (ADMA)*, 2019, November.
18. Huang, Y., **Lee, M.C.**, Tseng, V.S., Hsiao C.J. and Huang C.C., “Robust Sensor-based Human Activity Recognition with Snippet Consensus Neural Networks”. *16th IEEE International Conference on Wearable and Implantable Body Sensor Networks (BSN)*, 2019.

IN THE NEWS	<p>INFOSHIELD for Human Trafficking Detection</p> <ul style="list-style-type: none"> • WPXI • CMU News 	May 2021
WORK EXPERIENCE	<p>Amazon Applied Scientist Intern</p> <p>Amazon Applied Scientist Intern</p>	<p>Santa Clara, CA May 2023 - Aug 2023</p> <p>Palo Alto, CA May 2022 - Aug 2022</p>
TEACHING EXPERIENCE	<p>CMU 11-868: Large Language Model Systems Instructor: Lei Li Spring 2024</p> <p>CMU 15-883: Computational Models of Neural Systems Instructor: David Touretzky Fall 2023</p>	
PROJECT EXPERIENCE	<p>Fraud Detection on Transactional Data Advisors: Christos Faloutsos Dec 2021 - Present</p> <ul style="list-style-type: none"> • Collaborated with PNC Bank • Identified fraudulent transactions and users <p>Fraud Detection on Phone Call Networks Advisors: Christos Faloutsos Dec 2021 - Present</p> <ul style="list-style-type: none"> • Collaborated with Mobileum • Detected fraudulent phone calls in who-calls-whom temporal networks <p>Anti-Human Trafficking Advisors: Christos Faloutsos, Reihaneh Rabbany and Polo Chau Mar 2020 - Present</p> <ul style="list-style-type: none"> • Collaborated with McGill University and Marinus Analytics • Detected human trafficking associations by finding meta-clusters and templates <p>Data Science and Epilepsy Advisors: Christos Faloutsos and Leonidas Jassemidis Mar 2020 - Present</p> <ul style="list-style-type: none"> • Collaborated with Louisiana Tech University • Located seizures and focal channels through brain EEG signal data <p>Business Graphs Analysis Advisors: Christos Faloutsos, Leman Akoglu and Pierre Liang Mar 2020 - Sept 2020</p> <ul style="list-style-type: none"> • Collaborated with Tepper School of Business at Carnegie Mellon University • Identified patterns in syndicated loan datasets 	

Circadian Rhythm

Advisor: Vincent S. Tseng

Aug 2020 - Sept 2020

- Collaborated with MediaTek (Hsinchu, Taiwan)
- Analyzed circadian rhythm index by wrist-wearable data

Diabetic Retinopathy Severity Diagnosis

Advisor: Vincent S. Tseng

June 2018 - Nov 2018

- Collaborated with Industrial Technology Research Institute (Hsinchu, Taiwan)
- Integrated EMR with fundus images for diabetic retinopathy severity diagnosis

Activity Recognition using Smartphone Sensors

Advisor: Vincent S. Tseng

Sept 2017 - Sept 2018

- Collaborated with Compal Electronics (Taipei, Taiwan)
- Developed analytical techniques of physiological signal with wearable devices

RELEVANT COURSEWORK

CMU 10-703: Deep Reinforcement Learning

Instructor: Katerina Fragkiadaki

Fall 2022

CMU 36-705: Intermediate Statistics

Instructor: Sivaraman Balakrishnan

Fall 2021

PROFESSIONAL SERVICES

Session Chair

- **KDD:** 2023

Program Committee

- **SDM:** 2024

Conference Reviewer

- **WWW:** 2024
- **KDD:** 2022, 2023
- **ECML-PKDD:** 2023
- **ICDE:** 2023

PROGRAMMING LANGUAGES

Proficient: Python, \LaTeX

Familiar: C++, MATLAB

SPOKEN LANGUAGES

Mandarin: Native

English: Fluent