Jason Lin

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RESEARCH INTERESTS

Document Engineering, Geospatial Intelligence, Quantum Cryptography

EDUCATION

Ph.D., now. Computer Science and Engineering, Texas A&M University, College Station, TX

Dissertation: *"Modeling of Reasoning Flows in Scientific Publications"*

Advisor: Dr. Jyh-Charn (Steve) Liu

M.S., 2011. Computer Science and Information Engineering, National Cheng Kung University, Tainan, Taiwan

Thesis: *"Quantum Secret Sharing Protocols"*

Advisor: Dr. Tzonelih Hwang

B.S., 2009. Information Engineering and Computer Science, Feng Chia University, Taichung, Taiwan

Project: *"A New Secure Data Hiding Scheme by Using a Secret Location Map"*

Advisor: Dr. Wei-Bin Lee, Dr. Tung-Shou Chen

REFEREED PUBLICATIONS

[1] **J. Lin**, X. Wang, Z. Wang, D. Beyette, and J.-C. Liu, "Prediction of mathematical expression declarations based on spatial, semantic, and syntactic analysis," *Proceedings of the 19th ACM Symposium on Document Engineering,* Berlin, Germany, Sept. 23-26, 2019.

[2] D. Beyette, Z. Wang, **J. Lin**, and J.-C. Liu, "Semi-automatic LaTeX-based labeling of mathematical objects in PDF documents: MOP data set," *Proceedings of the 19th ACM Symposium on Document Engineering*, Berlin, Germany, Sept. 23-26, 2019.

[3] Z. Wang, D. Beyette, **J. Lin**, and J.-C. Liu, "Extraction of math expressions from PDF documents based on unsupervised modeling of fonts," *Proceedings of the 15th International Conference on Document Analysis and Recognition*, Sydney, Australia, Sept. 20-25, 2019.

[4] D. Beyette, M. Rugh, **J. Lin**, X. Wang, Z. Wang, J.-C. Liu, and R. Capraro, "DIME: A dynamic interactive mathematical expression tool for STEM education," *Proceedings of the 126th ASEE Annual Conference and Exposition*, Tampa, Florida, June 16-19, 2019.

[5] **J. Lin**, X. Wang, and J.-C. Liu, "Prediction of mathematical expression constraints (ME-Con)," *Proceedings of the 18th ACM Symposium on Document Engineering*, Halifax, Nova Scotia, Canada, Aug. 28-31, 2018.

[6] X. Wang, **J. Lin**, R. Vrecenar, and J.-C. Liu, "QuQn Map: Qualitative-Quantitative mapping of scientific papers," *Proceedings of the 18th ACM Symposium on Document Engineering*, Halifax, Nova Scotia, Canada, Aug. 28-31, 2018.

[7] S.-H. Kao, **J. Lin**, C.-W. Tsai, and T. Hwang, "An improved protocol for controlled deterministic secure quantum communication using five-qubit entangled state" *International Journal of Theoretical Physics*, Vol. 57, No 6, pp. 1894-1902, Mar 2018.

[8] X. Wang, **J. Lin**, R. Vrecenar, and J.-C. Liu, "Syntactic role identification of mathematical expressions," *Proceedings of the Twelfth International Conference on Digital Information Management*, pp. 179-184, Fukuoka, Japan, Sept 12-14, 2017.

[9] C.-W. Tsai and **J. Lin**, "Fault-tolerant remote quantum entanglement establishment for secure quantum communications," *International Journal of Theoretical Physics*, Vol. 55, No. 7, pp. 3200-3206, July 2016.

[10] **J. Lin**, X. Wang, B. Qu, S. George, and J.-C. Liu, "Strategic planning and tactical situational awareness using MECH," *Proceedings of the 20th International Command and Control Research and Technology Symposium*, Annapolis, Maryland, June 16-19, 2015.

[11] X. Wang, **J. Lin**, S. George, and J.-C. Liu, "DT-GIS system for tactical pattern exploration in asymmetric conflicts," *Proceedings of the 20th International Command and Control Research and Technology Symposium*, Annapolis, Maryland, June 16-19, 2015.

[12] X. Wang, S. George, **J. Lin**, and J.-C. Liu, "Quantifying tactical risk: A framework for statistical classification using MECH," *Proceedings of the 8th International Conference on Social Computing, Behavior-Cultural Modeling and Prediction*, Washington, D.C., Mar 31-Apr 3, 2015, LNCS Vol. 9021, pp. 446-451.

[13] **J. Lin**, B. Qu, X. Wang, S. George, and J.-C. Liu, "Risk management in asymmetric conflict: using predictive route reconnaissance to assess and mitigate threats," *Proceedings of the 8th International Conference on Social Computing, Behavior-Cultural Modeling and Prediction*, Washington, D.C., Mar 31-Apr 3, 2015, LNCS Vol. 9021, pp. 350-355.

[14] J. Chen, T.-S. Chen, C. Lin, S.-Y. Chen, and **J. Lin**, "A simple JPEG-LS compressed technique for 2DGE image with ROI emphasis", *The Imaging Science Journal*, Vol. 63, No. 2, pp. 76-80, Feb 2015.

[15] **J. Lin**, C.-W. Yang, and T. Hwang, "Quantum private comparison of equality protocol without a third party," *Quantum Information Processing*, Vol. 13, No. 2, pp. 239-247, Feb 2014.

[16] **J. Lin** and T. Hwang, "Bell state entanglement swappings over collective noises and their applications on quantum cryptography," *Quantum Information Processing*, Vol. 12, No. 2, pp.1089-1107, Feb 2013.

[17] **J. Lin** and T. Hwang, "New circular quantum secret sharing for remote agents," *Quantum Information Processing*, Vol. 12, No. 1, pp. 685-697, Jan 2013.

[18] **J. Lin**, C.-W. Yang, C.-W. Tsai, and T. Hwang, "Intercept-resend attacks on semi-quantum secret sharing and the improvements," *International Journal of Theoretical Physics*, Vol. 52, No. 1, pp. 156-162, Jan 2013.

[19] H.-Y. Tseng, **J. Lin**, and T. Hwang, "New quantum private comparison protocol using EPR pairs," *Quantum Information Processing*, Vol. 11, No. 2, pp. 373-384, Apr 2012.

[20] **J. Lin**, H.-Y. Tseng, and T. Hwang, "Intercept-resend attacks on Chen et al.'s quantum private comparison protocol and the improvements," *Optics Communications*, Vol. 284, No. 9, pp. 2412-2414, May 2011.

[21] **J. Lin** and T. Hwang, "An enhancement on Shi et al.'s multiparty quantum secret sharing protocol," *Optics Communications*, Vol. 284, No. 5, pp. 1468-1471, Mar 2011.

[22] C.-N. Lin, C.-C. Chang, W.-B. Lee, and **J. Lin**, "A novel secure data hiding scheme using a secret reference matrix," *Proceedings of the Fifth International Conference on Intelligent Information Hiding and Multimedia Signal Processing*, Kyoto, Japan, Sept 12-14, 2009, pp. 369-373 (EI).

PROFESSIONAL EXPERIENCES

2014-2019: Teaching Assistant, Texas A&M Engineering Experiment Station (TEES)
- CSCE-121: Introduction to Program Design and Concepts (Fall 2018) (Spring 2019) (Fall 2019)
- CSCE-221: Data Structures and Algorithms (Spring 2016)
- CSCE-411/629: Design and Analysis of Algorithms (Spring 2015) (Fall 2015)
- CSCE-222: Discrete Structures for Computing (Fall 2014)

2013-2019: Research Assistant, Real Time Distributed Systems Laboratory (RTDS)
- "Timing Intrusion Management Ensuring Resiliency (TIMER)", DOE
- "Probabilistic Forecast Tracking and Calibration Software System", Apache Corporation
- "Context-Aware Mission Auditing System", AFRL
- "MECH: Algorithms and Tools for Automated Assessment of Potential Attack Locations", ONR

PROFESSIONAL SERVICES

2012-2019: Reviewer, Quantum Information Processing
2015-2016: Reviewer, International Journal of Theoretical Physics

SELECTED HONORS

2015: SBP Student Travel Award
2010: National Finalist, Microsoft Imagine Cup, Creative Digital Group
2009: First Prize Award, Chunghwa Telecom Innovation & Application Contest, MOD Group

PROGRAMMING SKILLS

- General-purpose Programming: C, C++, Java, Python, MATLAB
- Relational Database: PostgreSQL, MySQL
- Web Development: HTML, CSS, JavaScript, Django

EXTRACURRICULAR ACTIVITIES

- Member, Taiwanese Student Association, 2013-2019
- Captain, Taiwanese Badminton Club, 2015-2016