Jason Lin

CONTACT

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RESEARCH INTERESTS

Document Engineering, Geospatial Intelligence, Quantum Cryptography

EDUCATION

Texas A&M University May 2020

Ph.D. in Computer Science and Engineering

- Dissertation: *"Modeling of Reasoning Flows in Scientific Publications"*
- Advisor: Dr. Jyh-Charn (Steve) Liu
- GPA: 3.8/4.0 (degree plan)

National Cheng Kung University Jun. 2011

M.S. in Computer Science and Information Engineering

- Thesis: *"Quantum Secret Sharing Protocols"*
- Advisor: Dr. Tzonelih Hwang
- GPA: 92/100

Feng Chia University Jun. 2009

B.S. in Information Engineering and Computer Science

- Project: *"A New Secure Data Hiding Scheme by Using a Secret Location Map"*
- Advisor: Dr. Wei-Bin Lee, Dr. Tung-Shou Chen
- GPA: 3.8/4.0

PROFESSIONAL EXPERIENCES

Texas A&M University, College Station, TX

- Student Technician, Real Time Distributed Systems Laboratory, Feb. 2020 – Present
- Graduate Teaching Assistant, Department of Computer Science and Engineering, Sept. 2014 – Jan. 2020
- Graduate Research Assistant, Real Time Distributed Systems Laboratory, Sept. 2013 – Aug. 2019

REFEREED CONFERENCES

C1. **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. **(Best Student Paper Award)**

C2. 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.

C3. 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.

C4. 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, Jun 16-19, 2019.

C5. 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.

C6. **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.

C7. 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.

C8. **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, Jun 16-19, 2015.

C9. 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, Jun 16-19, 2015.

C10. 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., LNCS Vol. 9021, pp. 446-451, Mar 31-Apr 3, 2015.

C11. **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., LNCS Vol. 9021, pp. 350-355, Mar 31-Apr 3, 2015.

C12. 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, pp. 369-373, Sept 12-14, 2009. **(EI)**

REFEREED JOURNALS

J1. 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. **(IF: 1.121)**

J2. 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, Jul 2016. **(IF: 1.121)**

J3. 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. **(IF: 0.846)**

J4. **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. **(IF: 2.222)**

J5. **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. **(IF: 2.222)**

J6. **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. **(IF: 2.222)**

J7. **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. **(IF: 1.121)**

J8. 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. **(IF: 2.222)**

J9. **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. **(IF: 1.961)**

J10. **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. **(IF: 1.961)**

TECHNICAL REPORTS

T1. S. George, X. Wang, **J. Lin**, B. Qu, and J.-C. Liu, "MECH: Algorithms and Tools for Automated Assessment of Potential Attack Locations," Department of Computer Science and Engineering, Texas A&M University, Oct. 6, 2015.

SELECTED HONORS AND AWARDS

2019: SIGWEB DocEng Best Student Paper Award, ACM

2019: Graduate Student Travel Award, Texas A&M University

2015: SBP Student Travel Award, Arizona State University

2010: National Finalist, Microsoft Imagine Cup, Creative Digital Group

2009: First Prize Award, Chunghwa Telecom Innovation & Application Contest, MOD Group

2005 – 2009: Dean's List, Feng Chia University

SPONSORED PROJECTS

"Timing Intrusion Management Ensuring Resiliency (TIMER)"

- Funding Agency: Department of Energy
- Project Cost: $4.4 million
- Working Period: Aug. 2019 – Present
- Description: Assist in documentation and verifications of the multithreading PC codebase that communicate with various GPS timing devices such as GPSDO and IRIG-B.

"Probabilistic Forecast Tracking and Calibration Software System"

- Funding Agency: Apache Corporation
- Project Cost: $112k
- Working Period: Jan. 2017 – Aug. 2018
- Description: Developed a web application to help users measure and improve their ability to assess uncertainty.

"Context-Aware Mission Auditing System"

- Funding Agency: Air Force Research Laboratory
- Project Cost: $35.0k
- Working Period: Sept. 2016 – Feb. 2017
- Description: Formulated a system framework of operational process discovery, learning, and adaptation for military mission optimization.

"MECH: Algorithms and Tools for Automated Assessment of Potential Attack Locations"

- Funding Agency: Office of Naval Research
- Project Cost: $622k
- Working Period: Jul. 2013 – Oct. 2015
- Description: Modeled the tactical behavior in asymmetric warfare based on their perception of environmental elements and conflict events.

OTHER PROJECTS

"Mathematical Expression Based Content Analysis Software"

- Working Period: Jun. 2018 – May 2019
- Description: Developed a graphic organizer system of mathematical expressions and their physical semantics in PDF documents.

"3D Multi-view Geographic Information Systems"

- Working Period: Feb. 2017 – Apr. 2017
- Description: Designed and implemented a database system with PostgreSQL to manage and handle multiple-user positioning on Google map API requested from different Microsoft HoloLens devices.

"Sport-Team Database Design"

- Working Period: Sept. 2014 – Nov. 2014
- Description: Designed schema and ER diagram for sport-team and built a DBMS by interfacing MySQL and Java via JDBC for all queries and modifications.

TEACHING ACTIVITIES

CSCE-121: Introduction to Program Design and Concepts (Fall 2018) (Spring 2019) (Fall 2019)

- Guiding students in lab activities using C++, grading exams, and hosting office hours.

CSCE-221: Data Structures and Algorithms (Spring 2016)

- Work with students in lab activities to implement data structures using C++ and provide students assistance in the final project.

CSCE-411/629: Design and Analysis of Algorithms (Spring 2015) (Fall 2015)

- Give partial lectures and grade weekly homework in this methodology course that covers techniques such as dynamic programming and greedy approach to deal with algorithmic problems.

CSCE-222: Discrete Structures for Computing (Fall 2014)

- Duties included creating homework solutions in LaTeX, grading assignments, and hosting office hours to help students in discrete mathematics.

PROFESSIONAL SERVICES

Reviewer, Modern Physics Letters A, 2019 – Present

Reviewer, Quantum Information Processing, 2012 – Present

Reviewer, International Journal of Theoretical Physics, 2015 – 2016

PROFESSIONAL SKILLS

General-purpose Programming: C, C++, Java, Python

Relational Database: PostgreSQL, MySQL

Web Development: HTML, CSS, JavaScript, Django

Numerical Computing: MATLAB

EXTRACURRICULAR ACTIVITIES

Member, Taiwanese Student Association, 2013 – 2020

Captain, Taiwanese Badminton Club, 2015 – 2016