Yi Li, Ph.D. Candidate

Department of Computer Science and Engineering, University of South Florida
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EDUCATION

Ph.D., University of South Florida, *Tampa, Florida, USA, July 2017-December 2020*
- Doctoral degree candidate in **Computer Science and Engineering**, Supervisors Dr. Kaiqi Xiong and Dr. Yu Sun
- Courses in Neural Networks/Deep Learning, Artificial Intelligence, Data Mining, Operating System, Theory of Algorithm, Computer Architecture. (GPA: 4.0/4.0)

Ph.D., University of Colorado Denver, *Denver, Colorado, USA, July 2015-May 2017*
- Ph.D. student in **Computer Science and Engineering**, Supervisor Dr. Min-Hyung Choi
- Courses in Algorithms, Advanced Computer Architecture, Computer Graphics, Shaders and GPU, Finite Element Stress Analysis Computational Complexity and Algorithm, Theory of Elasticity, Operating System. (GPA: 3.9/4.0)

MS, Henan Polytechnic University, *Jiaozuo, Henan, China, September 2012-July 2015*
- Master's degree in **Computer Science and Technology**, Supervisor Dr. Bibo Lu
- Courses in Combinatorial Mathematics, Multimedia Technology, Advanced Computer Network, Object Oriented Programming, Digital Image Processing, Pattern Recognition etc. (GPA: 3.66/4.0)

BS, Henan Polytechnic University, *Jiaozuo, Henan, China, September 2010-July 2012*
- Bachelor's degree in **Computer Science and Technology**
- Courses in Database, TCP/IP Protocol, Computer Network, Java Programming, Embedded System, AI, etc. (GPA: 3.28/4.0)

AS, Henan Polytechnic University, *Jiaozuo, Henan, China, September 2008-July 2010*
- Associate Degree in **Computer Science and Technology**
- Courses in Computer Fundamentals, Color Composition, Graphics Design, Web Design, 3D Animation, Multimedia, Video Processing, etc. (GPA: 3.4/4.0)

TECHNICAL SKILLS

- **Programming Languages and programming interface**:
  - Python, C/C++, Java, CLIPS, JavaScript, Go, OpenGL, OpenCV, Jupiter Notebook, Kinect Programming, PowerShell, Qt.

- **Data Science and analytics:**
  - Matlab, Microsoft Excel, R/RStudio, Mathematica, Octave, SAS/STAT, Matplotlib

- **Machine learning and data mining:**
  - TensorFlow, Keras, Weka, Matlab, Google Cloud Platform, R, Scikit-learn, PyTorch, Torch, Deeplearning4j, Kaggle, Adversarial Robustness Toolbox

- **Front and back-end web development:**
  - HTML, CSS, JavaScript, Dreamweaver

- **Research testbeds and cluster computing:**

o Global Environment for Networking Innovation (GENI), jFed, Chameleon Cloud Computing, Spark, Hadoop, Kaggle, GAIVI/GAIVI2, USF Research Computing
- **Graphic design and animation:**
  o Photoshop, Illustrator, Flash, 3D Max, Maya, Inkscape, Qt

FOCUS AREAS

- <u>**Network Security:**</u> Software Defined Networking (SDN), Domain Generation Algorithm (DGA), Key Reinstallation Attack (KRACK) detection and mitigation, adversarial attack, cyber security, machine learning and deep learning, in-vehicle network and connected vehicle, cloud computing, distributed computing
- <u>**User behavior:**</u> Phishing attack
- <u>**Analysis**</u>: Optimization, simulation, big data analytics, machine learning, graph theory, algorithms
- <u>**Computer Graphics:**</u> Physical based simulation and deformable objects with level of details
- <u>**Image Processing:**</u> High Dynamic Range (HDR), tone mapping, multi-scale image decomposition, facial expression

REASEARCH & TEACHING EXPERIENCE

Doctoral Research Assistant, Univ. of South Florida, CSE Department, *Tampa, USA, July. 2017-Present*
- Research in computer network security, user behavior in social media, vehicle network security, machine learning and deep learning, adversarial attacks
- Student Mentor for Computer Programming: STEM for Scholars Program, University of South Florida, Summer 2019
- Teaching Assistant for MAT 5932 Applied Cryptography, University of South Florida, Spring 2018 - Fall 2020
- Teaching Assistant for COT 4400 Analysis of Algorithms, University of South Florida, Fall 2020
- Teaching Assistant for MAC 2281/2311 Calculus I, University of South Florida, Spring 2018 - Spring 2019
- Teaching Assistant for COT 3100 Intro to Discrete Structures, University of South Florida, Fall 2019
- Instructor for CSCI 1411 Fundamental of Computing Lab (C++), University of Colorado Denver, Fall 2015 - Spring 2017
- Teaching Assistant for CSCI 2312 Intermediate Programming (C++), University of Colorado Denver, Fall 2015 & Spring 2016
- Teaching Assistant for CSCI 1410 Fundamental of Computing (C++), University of Colorado Denver, Spring 2017
- Reviewer for several conferences

PUBLICATIONS

1) **Yi Li**, Jing Lin, and Kaiqi Xiong. "An Adversarial Attack Defending System for Securing In-Vehicle Networks." *IEEE Consumer Communications and Networking Conference (CCNC),* 2021.
2) **Yi Li**, Kaiqi Xiong, and Xiangyang Li. "Applying Machine Learning Techniques to Understand User Behaviors When Phishing Attacks Occur." *EAI Endorsed Transactions on Security and Safety 6, no. 21,* 2019.
3) **Yi Li**, Kaiqi Xiong, and Xiangyang Li, "A Machine Learning Framework for Studying User Behaviors in Phishing Email Processing", *34rd IFIP TC-11 SEC 2019 International Conference on Information Security and Privacy Protection*, Lisbon, Portugal, June 25-27, 2019.

4) **Yi Li**, Kaiqi Xiong, and Xiangyang Li, "An Analysis of User Behaviors in Phishing Email Using Machine Learning Techniques", *The 16th International Conference on Security and Cryptography (SECRYPT 2019)*, Prague, Czech Republic, July 26-28, 2019.

5) **Yi Li**, Marcos Serrano, Tommy Chin, Kaiqi. Xiong and Jing Lin. "A Software Defined Networking-Based Detection and Mitigation Approach Against KRACK." *The 16th International Conference on Security and Cryptography (SECRYPT 2019)*, Prague, Czech Republic, July 26-28, 2019

6) **Yi Li**, Kaiqi Xiong and Xiangyang Li. "Understanding User Behaviors When Phishing Attacks Occur" *IEEE ISI*, 2019.

7) **Yi Li**, Kaiqi Xiong, Tommy Chin, and Chengbin Hu. "A Machine Learning Framework for Domain Generation Algorithm (DGA)-Based Malware Detection." *IEEE Access,* vol. 7, pp. 32765-32782, 2019.

8) Tommy Chin, Kaiqi Xiong, and Chengbin Hu, and **Yi Li**. "A machine learning framework for studying domain generation algorithm (DGA)-based malware." *SecureComm*, pp. 433-448. Springer, Cham, 2018.

9) Shane Transue, **Yi Li**, Nak-Jun Sung, Yoo-Joo Choi, Min Hong and Min-Hyung Choi, "Coherent Behavior with Level-of-detail in Cloth Simulation", *9th International Conference on Internet Multimedia, Image Processing, HCI and Intelligent Systems (ICONI)*, 2017.

10) **Yi Li**, Bibo Lu, "Image color appearance model based on regionalized non-local means filter and its application to tone mapping," *Geomatics and Information Science of Wuhan University*. vol. 41, 2016.

11) Bibo Lu, **Yi Li**, Jing Chen, Yanmei Zheng, "A Multi-scale Image decomposition method and Its Applications to Detail Manipulation and Tone Mapping." *Journal of Computational Information Systems*, vol.11, 2015.

12) Hongming Zhao, Yongliang Liu and **Yi Li**, "Optimization of height prediction of water fractured zone based on ANN," *2014 International Forum on Applied Energy and Environment (IFAEE 2014)*, 2014, vol. 737, pp. 422-424.

13) Bibo Lu, **Yi Li**, "Multi-scale tone mapping using non-local means filter," *Computer Engineering and Applications*, vol. 49, 2013.

Pending review:
14) Jing Lin, Mohamed Rahouti, Yi Li, and Kaiqi Xiong. "Blockchain Technology in Cybersecurity Education: Learning Modules On a Real-World Testbed."

RESEARCH REVIEW ROLES

- IEEE Access
- Securecomm
- International Conference on Computing, Networking and Communications (ICNC)
- International Conference on Computer Communications and Networks (ICCCN)

REFERENCES

1) Dr. Kaiqi Xiong
   Professor, Department of Mathematics & Statistics
   University of South Florida and Florida Center for Cybersecurity (FC^2)
   Tampa, FL, USA
   Phone: 813-974-4286
   Email: xiongk@usf.edu

2) Dr. Yu Sun
   Professor and Associate Chair of Graduate Affairs
   Department of Computer Science and Engineering, University of South Florida

Tampa, FL, USA
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3) Dr. Xiangyang Li
   SR Lecturer and Program Director of Master of Science in Security Informatics (MSSI)
   Information Security Institute, Department of Computer Science, Johns Hopkins University
   Baltimore, MD, USA
   Phone: 410-516-8521
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