Le (Leo) Zhang

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EDUCATION

Iowa State University
PhD in Computer Engineering; GPA: 3.4/4.0
Ames, IA
Expected May. 2020

University of Illinois, Springfield
Master of Science in Computer Science; GPA: 3.7/4.0
Springfield, IL
Aug 2011 – May 2013

Shanghai Jiao Tong University
Bachelor of Engineering in Mechanical Engineering; GPA: 3.4/4.0
Shanghai, China
Sep 2007 – Jun 2011

RESEARCH EXPERIENCE

Knowledge-Centric Software Lab
Graduate Research Assistant
Ames, IA
Sep 2017 - Present

- Re-defined the term "structured program".
- Designed and implemented an algorithm that analyzes if programs are structured. Analyzed Linux kernel source code with the tool we built and collected valuable information. Research papers in progress.
- Collaborated with Dr. Suraj Kothari and his research group to create software analysis tools on top of Atlas, an Eclipse based tool that allowing programmers to analyze Java and C programs in a structured manner.
- Participated in STAC (a DARPA research project) engagement 5 and 6. Analyzed 10 malicious applications and identified 9 vulnerabilities with automated exploits. Helped our team achieved 100% accurate rate in both engagements.

CSAFE
Graduate Research Assistant
Ames, IA
Jun 2016 - Aug 2017

- Enhanced TaintDroid with file level taint tracking by modifying Dalvik VM I/O libraries in Android source code.
- Developed DroidSmart using Python to monitor private user information leakage caused by vulnerable APPs.

Cybersecurity Lab
Graduate Research Assistant
Ames, IA
Apr 2015 - May 2016

- Designed and implemented "SybilSCAR", a Sybil detection algorithm which combines the advantages of both Random-Walk based and Loopy Belief Propagation based algorithms. C++ source code available on Github.
- Created "SybilDirect", a structure-based Sybil detection algorithm designed for directed graphs.
- Re-implemented algorithms "SybilBelief" and "SybilRank". Released C++ source code on Github
- Published research papers on top-tier conferences INFOCOM and WWW, and top-tier journal TNSE.

WORK EXPERIENCE

Office of the Inspector General, Illinois HFS
Data Analyst Intern
Springfield, IL
Aug 2012 - May 2013

- Conducted data-driven investigations on welfare fraud using SAS, MySQL, and Teradata.
- Improved 15% in work efficiency by reconstructing data structures in OIG database systems.

Taiyuan Heavy Machinery Group Co., ltd
Mechanical Engineer Intern
Shanxi, China
Jul 2010 - Sep 2010

- Participated in reconstruction of the layout of heavy-duty engineering workshop.
- Refined and updated more than 20 engineering drawings. Brought 12 re-designed products back to the production line.

LEADERSHIP EXPERIENCE

Iowa State University
Teaching Assistant
Ames, IA
Aug 2014 - Dec 2015

- Designed and led lab sections in course ComS 113, provided guidance to students in programming assignments.
- Designed 20 questions in midterm and final exams.
- Selected as one of the top 5 favorite teaching assistants in spring semester 2015.

2011 IEEE International Conference on Robotics and Automation
Volunteer Conference Coordinator
Shanghai, China
May 2011 - May 2011

- Provided support for implementing of the conference under the direction of the officers and Conference Chair.

Programming Skills

- **Strong Expertise**: Python • Java • C++ • C • Lua • Docker
- **Working Knowledge**: JavaScript (Node.js) • TensorFlow • R • SQL • PHP • HTML • Qt • Matlab

Projects

- **StructCodeAnalyzer(SCA)**: An extension of Atlas written in Java to help users to analyze if a given code is well-structured.
- **SCA-Visualizer**: A tool based on StructCodeAnalyzer. It visualizes the control-flow of programs in a structured manner.
- **RefParser**: A toolkit written in Python to help researchers in collecting reference paper information in Bibtex format.
- **WZ-Assist**: A mobile game assistant algorithm written in Lua for game "Kings of Glory". The core algorithm includes image recognition and automatic decision-making features. It has 5k+ downloads and 100k+ runs.

Publications

- **Zhang, L.**, Wang, B., Gong, N. "SybilBlind: Detecting Fake Users in Online Social Networks Without Manual Labels" The 21st International Symposium on Research in Attacks, Intrusions and Defenses (RAID), 2018

- Wang, B., Jia, J., **Zhang, L.**, Gong, N. "Structure-based Sybil Detection in Social Networks via Local Rule-based Propagation" IEEE Transactions on Network Science and Engineering (TNSE), 2018.

- Wang, B., **Zhang, L.**, Gong, N. "SybilSCAR: Sybil Detection in Online Social Networks via Local Rule based Propagation." IEEE Conference on Computer Communications (INFOCOM), 2017.

- Jia, J., Wang, B., **Zhang, L.**, Gong, N. "AttriInfer: Inferring User Attributes in Online Social Networks Using Markov Random Fields." 26th International World Wide Web Conference (WWW), 2017.