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## EDUCATION

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### Iowa State University

*PhD in Computer Engineering; GPA: 3.5/4.0*

Ames, IA

*Intended grad: 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*

## EXPERIENCE

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### Knowledge-Centric Software Lab

*Graduate Research Assistant*

Ames, IA

*Sep 2017 - Present*

- Designed and implemented an algorithm using **Java** to analyze if a given program is structured. Applied the tool to Linux kernel source code and collected valuable information which yields promising research outcomes. Research papers in progress.
- Collaborated with Dr. Suraj Kothari and EnSoft and created software analysis tools (using **Java**) 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 written in **Python**. Helped our team ranked No. 1 in both engagements.

### CSAFE

*Graduate Research Assistant*

Ames, IA

*Jun 2016 - Aug 2017*

- Enhanced TaintDroid with file level taint tracking (using **C**) 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” using **C++**, a Sybil detection algorithm which combines the advantages of both Random-Walk and Loopy Belief Propagation algorithms. Source code available on **Github**.
- Created “SybilDirect” using **C++**, a structure-based Sybil detection algorithm designed for directed graphs that outperforms other comparable algorithms.
- Re-implemented algorithms “SybilBelief” and “SybilRank” using **C++**. Source code available on **Github**.
- Published research papers on top-tier conferences INFOCOM and WWW, and journal TNSE.

### 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. Detected 30 cases of MediCare abuse and saved more than \$50K in Medicare fund.
- Reconstructed data structures in OIG database systems using SQL and improved 10% in computing efficiency.

## PROJECTS

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**StructCodeAnalyzer(SCA)**: An extension of Atlas written in **Java** that helps users analyzing if a given code is well-structured.

**SCA-Visualizer**: A toolkit written in **Java** for SCA that visualizes the control-flow graph of programs in a structured manner.

**RefParser**: A toolkit written in **Python** that helps researchers automatically collect reference paper information in Bibtext format.

**WZ-Assist**: A mobile moba game assistant written in **Lua** for game “Kings of Glory”. It provides game hints and warnings to users that improves the win-rate by 10% according to user feedback. It has 5k+ downloads and 4.8 stars in rating.

**CheckerAI**: A checker playing AI bot written in **Python** that plays checker against human users reinforced with Alpha-Beta search algorithm. It is able to beat 90% of human players. Available on **Github**.

## PROGRAMMING SKILLS

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**Strong Expertise**: Python (4yrs) • Java (4yrs) • C++ (5yrs) • C (5yrs) • Lua (2yrs)

**Working Knowledge**: JavaScript (Node.js) • TensorFlow • R • SQL • Docker • PHP • HTML • Qt • Matlab • Android Studio

## LEADERSHIP AND ACTIVITIES

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### **Intro to Spreadsheets and Databases**

Ames, IA

*Teaching Assistant*

*Aug 2014 - Dec 2015*

- Designed and led lab sections in course ComS 113, provided guidance to students in database assignments.
- Designed 20 questions in midterm and final exams which helped the instructor had a better measurement to evaluate performance of students.
- Selected as one of top 5 (out of 40) students' favorite teaching assistants in spring semester 2015.

### **2011 IEEE International Conference on Robotics and Automation**

Shanghai, China

*Volunteer Conference Coordinator*

*May 2011 - May 2011*

- Supported the implementation of the conference and provided guidance to the presenters and the audience.

## SELECTED PUBLICATIONS

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**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.