

Zhen Zhang

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EDUCATION

Johns Hopkins University — Whiting School of Engineering, Baltimore, MD

M.S. in Computer Science

Sep. 2018 – Dec. 2020

GPA: 4.00 / 4.00

Lehigh University — P.C. Rossin College of Engineering & Applied Science, Bethlehem, PA

M.S./Ph.D. student in Computer Science

Aug. 2016 – Jul. 2018

GPA: 3.97 / 4.00

Zhejiang University of Technology, Hangzhou, China

B.E. in Software Engineering

Sep. 2011 – Jul. 2015

GPA: 3.86 / 4.00

RESEARCH PROJECTS

Correlating Description and Permission with Transfer Learning

Guide: [Dr. Yinzhi Cao](#)

May. 2018 – Jun. 2019

- Goal: Matching applications' description to permissions for potential over-privilege detection
- Applied Neural Network models include Convolutional Neural Networks (CNNs), word-embeddings, Recurrent Neural Networks (RNNs), Deep Averaging Networks (DANs)
- Applied novel domain selection algorithms, which is an important for performance boosting
- Applied Transfer Learning techniques and achieved around 82% matching precision on average (improved around 8% comparing to training from scratch)
- Created sentence-to-permission data-sets for Android, IFTTT and Chrome Extension platforms

Embedding Word Relationship

Guide: [Dr. Sihong Xie](#)

Sep. 2017 – Mar. 2018

- Goal: Predicting suitable modifiers for aspects of products on E-commerce websites
- Proposed encoding word relationship, modification, into Word-Embeddings space
- Proposed new loss function for word embedding training to encode modification relationship in sentences
- Proposed Negative Sampling idea for word-embedding training to improve result quality

Towards a Secure Zero-rating Framework with Three Parties

Guide: [Dr. Yinzhi Cao](#)

Jan. 2017 – May. 2018

- Goal: Preventing zero-rating attacks
 - Implemented proxy-based attack module to attack existing zero-rating system
 - Implemented anti-IP-whitelist attack to attack theoretical IP based defense
 - Implemented network packet parsing, packet integrity and authenticity checking, and packet control modules at control plane of Software-Defined Networking (SDN)
 - Given a presentation at USENIX Security 2018
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WORK EXPERIENCE

State Street, Hangzhou, China

Software Engineer

Aug. 2015 – Jan. 2016

- Integrated [Cloakware](#) into Intranet OAuth. System.
- Developed a Services Monitoring System based on open-source [Watchmen](#) (P.O.C. project)
- Deployed Message Queue system with [ActiveMQ](#)
- Combined Message Queue with Authentication System. (P.O.C project)

LogisLand, Hangzhou, China

Software Engineer Intern

Jul. 2014 – Oct. 2014

- Implemented a web spider to collect trading data using Python
 - Implemented the data pulling module of the trading system using C++
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SKILLS & OTHERS

Machine Learning: Linear Regression, Neural Networks, Word Embeddings model, Adversarial Learning, Kernel Method, Transfer Learning

Programming Languages: proficient in Python, Java. Experienced with C++, Javascript, Matlab

Frameworks: Numpy, Pytorch, Tensorflow, sklearn

Interests: computer games, assemble/dismantle electronic devices, learning mathematical concepts

Teaching Assistant: CS601.220 Intermediate Programming, CS 601.422 Software Testing & Debugging

Open Courses: [Computational Investing, Part I\(2013\)](#), [The Data Scientist's Toolbox\(2014\)](#)