Hannah Chen

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EDUCATION

University of Virginia — Charlottesville, VA
PhD in Computer Science (GPA: 4.0/4.0) — *Aug. 2019 – Present*

Chang Gung University — Taoyuan, Taiwan
BS in Information Management (GPA: 3.53/4.0, Last 60 GPA: 4.0/4.0) — *Sep. 2014 – Jun. 2018*

RESEARCH EXPERIENCE

Research Intern — Feb. 2022 – May. 2022
Cryptography and Privacy Group, Microsoft Research — *Redmond, WA*
- Investigated privacy leakage in code generation models
- Experimented with membership inference and training data reconstruction attack
- Proposed several mitigation methods to improve current pipeline

Machine Learning Intern — Jun. 2018 – Dec. 2018
Cybersecurity Technology Institute, Institute for Information Industry — *Taipei, Taiwan*
- Exploratory data analysis of Tweets from security experts
- Built binary classifiers for Secbuzzer System to identify security related Tweets
- Built and trained Word2Vec and Doc2Vec models to find similarity between contexts
- Built classification pipeline for streaming data stored in Elasticsearch

Undergraduate Research Assistant — Jul. 2017 – Jun. 2018
Lab of Ubiquitous Security and Applications, Chang Gung University — *Taoyuan, Taiwan*
- Participated in Prof. Chien-Lung Hsu's IoT security research project
- Implemented device authentication using NTRU encryption in Java
- Programmed Raspberry Pi sensors to capture environmental data

TEACHING EXPERIENCE

CS6501 AI for Social Good - Graduate Teaching Assistant — Fall 2021
University of Virginia

CS6501 Natural Language Processing - Graduate Teaching Assistant — Spring 2021
University of Virginia

DS5001 Exploratory Text Analytics - Graduate Teaching Assistant — Fall 2020
University of Virginia

Python Programming - Teaching Assistant — Spring 2018
Chang Gung University

AWARDS & HONORS

UVA Engineering Dean's Scholar Fellowship (2019 – 2024)

Student member of IEEE HKN Gamma Pi Chapter at UVA (2021)

Three times Presidential Awards (2016 Fall, 2017 Spring, 2017 Fall; Top 3% of class)

First runner-up of 2014 Chang Gung University English Speech Contest

PUBLICATIONS

Finding Friends and Flipping Frenemies: Automatic Paraphrase Dataset Augmentation Using Graph Theory
Hannah Chen, Yangfeng Ji, David Evans
EMNLP 2020 (Findings), November 2020

Pointwise Paraphrase Appraisal Is Potentially Problematic
Hannah Chen, Yangfeng Ji, David Evans
ACL 2020 Student Research Workshop, July 2020

PROJECTS

Ensemble Embedding of Information Infusion Model for Threat Intelligence Correlation   Sep. 2018 – Dec. 2018
- Integrated crowdsourcing information to gain further insight into ongoing cyber attacks
- Correlated Common Vulnerability and Exposures (CVE) with the associated tweet discussions using information retrieval and ensemble learning
- Developed sec2Vec embedding method. (Github repository: [sec2vec](sec2vec))

Security-Enhanced IoT/Wearable Wireless Sensor Network   Jul. 2017 – Jun. 2018
- Designed new lightweight cryptosystems for IoT devices
- Improved IEEE 802.15.6 Authentication Association and Block-adding with NTRU

Health Monitoring and Management System for Elderly Care   Mar. 2017 – Dec. 2018
- Analyzed the elders' health and mental conditions by tracking the data of their activities and emotions
- Built stroke testing and activity check-in module using facial and speech recognition
- Built with Node.js, ExpressJS, HTML/CSS, JavaScript, MongoDB, and Face Recognition APIs

SERVICE

President of Taiwanese Graduate Student Association (TGSA) at UVa (2022-2023)

Reveiwer of NLPCC 2021