

HANNAH CHEN

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EDUCATION

University of Virginia

PhD in Computer Science (GPA: 4.0/4.0)

Charlottesville, VA

Aug. 2019 – Present

Chang Gung University

BS in Information Management (GPA: 3.53/4.0, Last 60 GPA: 4.0/4.0)

Taoyuan, Taiwan

Sep. 2014 – Jun. 2018

RESEARCH EXPERIENCE

Research Intern

Cryptography and Privacy Group, Microsoft Research

Feb. 2022 – May. 2022

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

Cybersecurity Technology Institute, Institute for Information Industry

Jun. 2018 – Dec. 2018

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

Lab of Ubiquitous Security and Applications, Chang Gung University

Jul. 2017 – Jun. 2018

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

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

MENTORING

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|---|-----------------------|
| • Varun Vejalla (Undergraduate UVA)
Project: Evaluating Large Language Models for Bias | May. 2023 – Nov. 2023 |
| • Jason Briegel (Undergraduate UVA)
Project: Adjectives Can Reveal Gender Biases Within NLP Models | May. 2023 – Aug. 2023 |
| • Pragun Ananda (Undergraduate UVA)
Project: Data Augmentation with Graph Theory | May. 2020 – Sep. 2020 |

TEACHING EXPERIENCE

CS6501/CS4501 Data Privacy - Graduate Teaching Assistant <i>University of Virginia</i>	Fall 2022
CS6501 AI for Social Good - Graduate Teaching Assistant <i>University of Virginia</i>	Fall 2021
CS6501 Natural Language Processing - Graduate Teaching Assistant <i>University of Virginia</i>	Spring 2021
DS5001 Exploratory Text Analytics - Graduate Teaching Assistant <i>University of Virginia</i>	Fall 2020
Python Programming - Teaching Assistant <i>Chang Gung University</i>	Spring 2018

PUBLICATIONS

Addressing Both Statistical and Causal Gender Fairness in NLP Models

Hannah Chen, Yangfeng Ji, David Evans
NAACL 2024 (Findings), June 2024

Balanced Adversarial Training: Balancing Tradeoffs Between Oversensitivity and Undersensitivity in NLP Models

Hannah Chen, Yangfeng Ji, David Evans
EMNLP 2022, October 2022

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](#))

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)
- Reviewer: NLPCC 2021, IJCNLP-AAACL 2023, NeurIPS 2023 SoLaR Workshop, ACL Rolling Review 2023-now