QINGYING HAO

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RESEARCH INTERESTS

Security and Privacy; Machine Learning

EDUCATION

University of Illinois Urbana Champaign, Champaign, IL 2019 - 2025
Virginia Tech, Blacksburg, VA 2018 - 2019
Ph.D. in Computer Science
Adivisor: Gang Wang

Jonhs Hopkins University, Homewood, MD 2015 - 2017
M.S. in Information Security

University of Washington, Seattle, WA 2011 - 2015
B.S. in Information Science

PUBLICATIONS

- **[IEEE SP 2026]** Haoyu Zhai, Shuo Wang, Pirouz Naghavi, **Qingying Hao**, and Gang Wang. "Revelio: Blurred Images Can Still Disclose Your Identity." In Proceedings of *The 47th IEEE Symposium on Security and Privacy (IEEE SP)*, San Francisco, CA, May 2026. [pdf]

- **[SOUPS 2025]** Yizhu Wang, Haoyu Zhai, Chenkai Wang, **Qingying Hao**, Nick A. Cohen, Roopa Foulger, Jonathan A. Handler, and Gang Wang. "Can You Walk Me Through It? Explainable SMS Phishing Detection using LLM-based Agents." In Proceedings of *the 21st Symposium on Usable Privacy and Security (SOUPS)*, Seattle, WA, August 2025. [pdf]

- **[Usenix Sec. 2024]** **Qingying Hao**, Nirav Diwan, Ying Yuan, Giovanni Apruzzese, Mauro Conti, Gang Wang. "It Doesn't Look Like Anything to Me: Using Diffusion Model to Subvert Visual Phishing Detectors." In Proceeding of *The 33rd USENIX Security Symposium (USENIX Security)*, Philadelphia, PA, August 2024. [pdf]

- **[WWW 2024]** Ying Yuan, **Qingying Hao**, Mauro Conti, Giovanni Apruzzese, Gang Wang. "Are Adversarial Phishing Webpages a Threat in Reality?." In Proceeding of *The ACM Web Conference (WWW)*, Singapore, May 2024. [pdf]

- **[Usenix Sec. 2023]** Xiaojun Xu, **Qingying Hao**, Zhuolin Yang, Bo Li, David Liebovitz, Gang Wang, Carl Gunter. "How to Cover up Anomalous Accesses to Electronic Health Records." In Proceeding of *The 32nd USENIX Security Symposium (USENIX Security)*, Anaheim, CA, August 2023. [pdf]

- **[CCS 2021]** **Qingying Hao**, Licheng Luo, Steve TK Jan, Gang Wang. "It's Not What It Looks Like: Manipulating Perceptual Hashing based Applications." In Proceeding of *The ACM Conference on Computer and Communications Security (CCS)*, Seoul, South Korea, November 2021. [pdf]

- **[Usenix Sec. 2021]** Limin Yang, Wenbo Guo, **Qingying Hao**, Arridhana Ciptadi, Ali Ahmadzadeh, Xinyu Xing, Gang Wang. "CADE: Detecting and Explaining Concept Drift Samples for Security Applications." In Proceedings of *The 30th USENIX Security Symposium (USENIX Security)*, Vancouver, BC, Canada, August 2021. [pdf]

- **[IEEE SP 2020]** Steve T.K. Jan, **Qingying Hao**, Tianrui Hu, Jiameng Pu, Gang Wang, and Bimal Viswanath. "Throwing Darts in the Dark? Detecting Bots with Limited Data using Neural Data Augmentation." In Proceedings of *The 41st IEEE Symposium on Security and Privacy (IEEE SP)*, San Francisco, CA, May 2020. [pdf]

- **[IDSC 2019]** Ya Xiao, **Qingying Hao**, Danfeng Yao. "Neural Cryptanalysis: Metrics, Methodology, and Applications in CPS Ciphers." In Proceedings of *The IEEE Conference on Dependable and Secure Computing (IDSC)*, Hangzhou, China, November 2019. [pdf]

- **[CAC 2017]** Yuqing Yu, **Qingying Hao**, Ping Hao. "The Research and Application of Enterprises' Dynamic Risk Monitoring and Assessment Model Based on Related Time Series." In Proceedings of *The Chinese Automation Congress Intelligent Manufacturing International Conference (CAC)*, Jinan, China, October 2017. [pdf]

Pre-Prints

- **[Under Submission] Qingying Hao**, Chuxuan Hu, Jingyuan Jia, Carl Gunter, Bo Li, Gang Wang. "Embedding Alignment for Enhanced Out-of-Distribution Detection in Graphs".

POSTERS

Worshop Posters

- **Qingying Hao**, Nirav Diwan, Ying Yuan, Giovanni Apruzzese, Mauro Conti, Gang Wang. "It Doesn't Look Like Anything to Me: Using Diffusion Model to Subvert Visual Phishing Detectors." *The Ninth Midwest Security Workshop*, West Lafayette, IN, November 2024.

PATENTS

- Bimal Viswanath, Arik Hadass, Sonal Oswal, Jiameng Pu, Tianrui Hu, Gang Wang, Steve Jan, **Qingying Hao**. " A Method to Detect Web Bots with Limited Data Using Neural Network". Filed by VTIP. IP Disclosure: 02/04/2020. # VTIP 20-061.

TALKS

- "Security of Real-world Applications Built on Similarity Learning Models". *ICSSP seminar*, UIUC, November 2024.
- "It Doesn't Look Like Anything to Me: Using Diffusion Model to Subvert Visual Phishing Detectors." *The 33rd USENIX Security Symposium (USENIX Security)*, Philadelphia, PA, August 2024.
- "Use Machine Learning Techniques to Subvert Perceptual Hashing Based Application". *ZheJiang University Machine Learning Security Seminar*, Hangzhou, China, March 2022.
- "Adversarial Attacks Against Perceptual Hashing." *ISG Research Seminars*, UK, Virtual, January 2022.
- "It's Not What It Looks Like: Manipulating Perceptual Hashing based Applications." *The ACM Conference on Computer and Communications Security (CCS)*, Seoul, South Korea, November 2021.

AWARDS AND HONORS

- USENIX Security 2024 Student Diversity Grant
- CCS 2021 Student Travel Grant (iMentor)
- UW Dean's List 2011 - 2015

EXPERIENCE

eBay - Research Consultant October 2023 - December 2024

- eBay-UIUC collaboration research on time-shift anomalous transaction detection.

Gongyue Information and Technology - Risk Analysis Intern January 17 - May 17

- Designed and developed a time-series based risk monitoring and alert generation model for local dyeing enterprises.

PROFESSIONAL SERVICE

Journal Reviewer

- [TMM] IEEE Transactions on Multimedia 2025
- [TDSC] IEEE Transactions on Dependable and Secure Computing 2022

External Reviewer

- [IEEE SP] ACM IEEE Symposium on Security and Privacy (Sub-reviewer) 2025
- [CCS] ACM Conference on Computer and Communications Security (Sub-reviewer) 2024

Mentorship

- ACM Mentorship UIUC 2024

CODE AND DATASET RELEASE

- "It Doesn't Look Like Anything to Me: Using Diffusion Model to Subvert Visual Phishing Detectors".
  `https://github.com/gyNancy/Visualphish_public`

- ""Are Adversarial Phishing Webpages a Threat in Reality?" Understanding the Users' Perception of Adversarial Webpages".
  `https://github.com/hihey54/www24_threatAdvPhish`

- "It's Not What It Looks Like: Manipulating Perceptual Hashing based Applications".
  `https://github.com/gyNancy/phash_public`

- "CADE: Contrastive Autoencoder for Drifting detection and Explanation".
  `https://github.com/whyisyoung/CADE`

TEACHING

- Teaching Assistant CS 498: Internet of Things. UIUC (online) Spring 2022
- Teaching Assistant CS 1114: Introduction to Software Design. Virginia Tech Srping 2019
- Teaching Assistant CS 4254: Network Architecture Programming. Virginia Tech Fall 2018