Hao Chen

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RESEARCH INTERESTS

Security of AI, AI-driven security, software security

EDUCATION

University of California, Berkeley   1998-08 – 2004-06
PhD in Computer Science   *Berkeley, CA, USA*

HONORS AND AWARDS

- IEEE Fellow

- ACM Distinguished Member

- Outstanding Engineering Faculty Award, UC Davis, 2010

- CAREER Award, National Science Foundation, 2007

SERVICES

Chair or co-chair of technical program committee

- IEEE Conference on Communications and Network Security (CNS) 2023

- IEEE Mobile Security Technologies (MoST) 2012, 2013

Editorial board

- Associate editor of ACM Transactions on Security and Privacy (TOPS), 2020–present

Member of program committee

- ACM Conference on Foundations of Data Science (FODS) 2020

- ACM Conference on Computer and Communications Security (CCS) 2017–2019, 2022

- IEEE Conference on Communications and Network Security (CNS) 2013–2017

- ACM Asia Conference on Computer and Communications Security (ASIACCS) 2006, 2016–2017

- IEEE Mobile Security Technologies (MoST) 2012–2017

- IEEE International Conference on Computer Communications (INFOCOM) 2016

- IEEE Symposium on Security and Privacy (S&P) 2009, 2015

- International Conference on Mobile Systems, Applications, and Services (MobiSys) 2015

- International Conference on Cryptology and Network Security (CANS) 2015

- Annual Computer Security Applications Conference (ACSAC) 2012–2013

- World Wide Web Conference (WWW) 2012

- ACM Conference on Wireless Network Security (WiSec) 2011, 2016

- Network and Distributed System Security Symposium (NDSS) 2006, 2008–2011

- International Conference on Security and Privacy in Communication Networks (SecureComm) 2007–2012

- IEEE Web 2.0 Security and Privacy (W2SP) 2009–2011, 2013

- International Conference on Distributed Computing Systems (ICDCS) 2008

- Usenix Security Symposium 2007

PUBLICATIONS

[1] Qizhang Li, Yiwen Guo, Wangmeng Zuo, and Hao Chen. "Improving Adversarial Transferability via Intermediate-level Perturbation Decay". In: *Neural Information Processing Systems* (*NeurIPS*). New Orleans, LA, USA, Dec. 10–16, 2023.

[2] Qizhang Li, Yiwen Guo, Wangmeng Zuo, and Hao Chen. "Towards Evaluating Transfer-based Attacks Systematically, Practically, and Fairly". In: *Neural Information Processing Systems* (*NeurIPS*). New Orleans, LA, USA, Dec. 10–16, 2023.

[3] Peng Chen, Yuxuan Xie, Yunlong Lyu, Yuxiao Wang, and Hao Chen. "HOPPER: Interpretative Fuzzing for Libraries". In: *ACM Conference on Computer and Communications Security* (*CCS*). Copenhagen, Denmark, Nov. 26–30, 2023.

[4] Fangfei Lin, Bing Bai, Yiwen Guo, Hao Chen, Yazhou Ren, and Zenglin Xu. "MHCN: a Hyperbolic Neural Network Model for Multi-view Hierarchical Clustering". In: *International Conference on Computer Vision* (*ICCV*). Paris, France, Oct. 4–6, 2023.

[5] Jianyu Zhao, Yuyang Rong, Yiwen Guo, Yifeng He, and Hao Chen. "Understanding Programs by Exploiting (Fuzzing) Test Cases". In: *Findings of the Association for Computational Linguistics* (*ACL*). Toronto, Canada, July 9–14, 2023.

[6] Qizhang Li, Yiwen Guo, Wangmeng Zuo, and Hao Chen. "Making Substitute Models More Bayesian Can Enhance Transferability of Adversarial Examples". In: *International Conference on Learning Representations* (*ICLR*). Kigali, Rwanda, May 1–5, 2023.

[7] Qizhang Li, Yiwen Guo, Wangmeng Zuo, and Hao Chen. "Squeeze Training for Adversarial Robustness". In: *International Conference on Learning Representations* (*ICLR*). Kigali, Rwanda, May 1–5, 2023.

[8] Xuechao Du, Andong Chen, Boyuan He, Hao Chen, Fan Zhang, and Yan Chen. "AflIot: Fuzzing on Linux-based IoT Device with Binary-Level Instrumentation". In: *Computers & Security* (2022). ISSN: 0167-4048. DOI: `https://doi.org/10.1016/j.cose.2022.102889`.

[9] Yiwen Guo, Qizhang Li, Wangmeng Zuo, and Hao Chen. "An Intermediate-level Attack Framework on The Basis of Linear Regression". In: *IEEE Transactions on Pattern Analysis and Machine Intelligence* (2022). DOI: `10.1109/TPAMI.2022.3188044`.

[10] Yang Liu, Zisen Xu, Ming Fan, Yu Hao, Kai Chen, Hao Chen, Yan Cai, Zijiang Yang, and Ting Liu. "ConcSpectre: Be Aware of Forthcoming Malware Hidden in Concurrent Programs". In: *IEEE Transactions on Reliability* (2022).

[11] Yuyang Rong, Chibin Zhang, Jianzhong Liu, and Hao Chen. "Valkyrie: Improving Fuzzing Performance Through Deterministic Techniques". In: *IEEE International Conference on Software Quality, Reliability, and Security* (*QRS*). Guangzhou, China, Dec. 5–9, 2022. Best paper award.

[12] Jiyu Chen, Yiwen Guo, Hao Chen, and Neil Gong. "Membership Inference Attack in Face of Data Transformations". In: *IEEE Conference on Communications and Network Security* (*CNS*). Austin, TX, USA, Oct. 3–5, 2022.

[13] Bulou Liu, Bing Bai, Weibang Xie, Yiwen Guo, and Hao Chen. "Task-optimized User Clustering based on Mobile App Usage for Cold-start Recommendations". In: *ACM SIGKDD Conference on Knowledge Discovery and Data Mining*. Washington DC, USA, Aug. 14–18, 2022.

[14] Yukun Jiang, Xiaoyu Cao, Hao Chen, and Neil Gong. "Feder: communication-efficient byzantine-robust federated learning". In: *ICLR Workshop on Socially Responsible Machine Learning* (*SRML*). Apr. 29–29, 2022.

[15] Jiyu Chen, Yiwen Guo, Qianjun Zheng, and Hao Chen. "Protect Privacy of Deep Classification Networks by Exploiting Their Generative Power". In: *Machine Learning* 110 (2021), pp. 651–674.

[16] Yang Liu, Ming Fan, Ting Liu, Yu Hao, Zisen Xu, Kai Chen, Hao Chen, and Yan Cai. "ConcSpectre: Be Aware of Forthcoming Malware Hidden in Concurrent Programs". In: *IEEE International Conference on Software Quality, Reliability, and Security (QRS)*. Dec. 6–10, 2021. Best paper award.

[17] Ziheng Liu, Shuofei Zhu, Boqin Qin, Hao Chen, and Song Linhai. "Automatically Detecting and Fixing Concurrency Bugs in Go Software Systems". In: *International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*. Apr. 19–23, 2021.

[18] Weili Han, Chang Cao, Hao Chen, Dong Li, Zheran Fang, Wenyuan Xu, and Xiaoyang Wang. "senDroid: Auditing Sensor Access in Android System-Wide". In: *IEEE Transactions on Dependable and Secure Computing* 17.2 (2020), pp. 407–421.

[19] Yiwen Guo, Qizhang Li, and Hao Chen. "Backpropagating Linearly Improves Transferability of Adversarial Examples". In: *Neural Information Processing Systems (NeurIPS)*. Dec. 6–12, 2020.

[20] Qizhang Li, Yiwen Guo, and Hao Chen. "Practical No-box Adversarial Attacks against DNNs". In: *Neural Information Processing Systems (NeurIPS)*. Dec. 6–12, 2020.

[21] Haitian Chen, Bai Jiang, and Hao Chen. "StyleCAPTCHA: CAPTCHA Based on Style-Transferred Images to Defend against Deep Convolutional Networks". In: *ACM-IMS Foundations of Data Science Conference (FODS)*. Oct. 18–20, 2020.

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[24] Yunhan Jia, Yantao Lu, Junjie Shen, Qi Alfred Chen, Hao Chen, Zhenyu Zhong, and Tao Wei. "Fooling Detection Alone Is Not Enough: Adversarial Attack Against Multiple Object Tracking". In: *International Conference on Learning Representations (ICLR)*. Addis Ababa, Ethiopia, Apr. 26–30, 2020.

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[30] Peng Chen and Hao Chen. "Angora: Efficient Fuzzing by Principled Search". In: *IEEE Symposium on Security & Privacy*. San Francisco, CA, USA, May 21–23, 2018.

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[58] Benjamin Davis, Hao Chen, and Matthew Franklin. "Privacy-Preserving Alibi Systems". In: *7th ACM Symposium on Information, Computer and Communications Security (ASIACCS)*. Seoul, South Korea, May 1–3, 2012.

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PATENTS

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