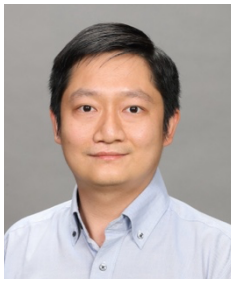
Huy H. Nguyen (Nguyễn Hồng Huy)



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***Cell**: +81 70 4478 4325* ***Homepage**: https://honghuy127.github.io*
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***Nationality**: Vietnamese*

RESEARCH INTERESTS

Machine Learning and Deep Learning, Computer Vision, NLP, Security and Privacy.

EDUCATION

2016 – 2022 **The Graduate University for Advanced Studies, SOKENDAI, Japan**
School of Multidisciplinary Sciences, Department of Informatics
Doctor of Philosophy

2009 – 2013 **VNUHCM - University of Science, Vietnam**
Faculty of Information Technology
Bachelor of Science – Honors Program

RESEARCH EXPERIENCES

2022 – Current **National Institute of Informatics (NII), Japan**
Specially Appointed Assistant Professor (Since Nov. 2022)
Project Postdoctoral Researcher (Apr. – Oct. 2022)
Research projects: JST-ANR VoicePersonae, CREST FakeMedia.
Topics: Security for AI and AI for security.

2016 – 2022 **The Graduate University for Advanced Studies, SOKENDAI, Japan**
Ph.D. Student - *Echizen Lab and the Global Research Center for Synthetic Media, NII, Japan*
Advisors: *Prof. Junichi Yamagishi and Prof. Isao Echizen*
Research projects: JSPS Kakenhi (S) Media Clones, JST-ANR VoicePersonae, CREST FakeMedia.

Oct. 2019 – Feb. 2020 **Idiap Research Institute, Switzerland (Internship)**
Biometrics Security and Privacy (BSP) group – Advisor: Dr. Sébastien Marcel
Research project: Deep master faces (IJCB 2020 & IEEE T-BIOM 2022)

Feb. – Aug. 2015 **National Institute of Informatics, Japan (Internship)**
Echizen Laboratory – Advisor: Prof. Isao Echizen
Topic: Image spoofing attack detection (IWDW 2015).

2013 **Bachelor Thesis** – *Advisor: Prof. Thuc D. Nguyen*
Applied sequence alignment in virus detection and classification.
Topic: Apply biological sequence alignment to detect and classify computer virus.
Result: Excellent

Jul. – Oct. 2012 **Pohang University of Science and Technology, South Korea (Internship)**
Member of High Performing Computing Laboratory – Advised by Prof. Jong Kim
Topic: Coding guidelines for secure, reliable, and fault-tolerant Java applications.

TEACHING & INDUSTRIAL EXPERIENCES

July 1 – Nov 18, 2020 **Amazon.com, Inc ("Virtual" Summer internship)**
Amazon Selection and Catalog Systems (ASCS) team
Project: Session analyzer - A toolset to assist AutoML session debugging

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Sep. 13 – Jun. 16 **Department of Knowledge Engineering, Faculty of Information Technology, VNUHCM - University of Science, Vietnam**
Teaching Assistant – Data Structures and Algorithms, Networks Security Techniques, Computer Architecture and Assembly Language, Computer Vision.

Jul. 13 – Feb. 15 **Universal Technology Services Corporation, Vietnam**
OPSWAT Metascan Splunk app, VoxyPAD, R&D

AWARDS

- **Excellent paper award:** 3 journal papers by the Institute of Electronics, Information and Communication Engineers (IEICE), Japan.
- **Telecom Interdisciplinary Research Award** by the Telecommunication Advancement Foundation, Japan (2023).
- **Best Student Award** awarded by the National Institute of Informatics, Japan (2022).
- **Ph.D Forum Best Poster Award:** H. H. Nguyen, J. Yamagishi, and I. Echizen, "Real or Fake Images: Attacking and Reinforcing the Machine Learning Systems," *2018 Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)*.
- **Best Paper Award**: T. N.-D. Tieu, H. H. Nguyen, H. Nguyen-Son, J. Yamagishi, and I. Echizen, "An approach for gait anonymization using deep learning," *2017 IEEE Workshop on Information Forensics and Security (WIFS*).
- **Consolation prize** in Student with Information Security 2012 Contest in South Region, organized by Vietnam Information Security Associate (VNISA) (http://vnisa.org.vn/).
- **Consolation prize** in Snatching the H@t, a security contest organized by IDG at the 4th CSO ASEAN AWARDS 2012, Vietnam (http://cso.org.vn/contest/).

SCIENTIFIC CONTRIBUTIONS

- Reviewer:
  - Conferences: NeurIPS, ICML, WACV, ICME, ACL RR, APSIPA ASC.
  - Journal: IEEE (Access, TIP, TIFS), IEEE/CAA JAS, ACM TOMM, Elsevier (PRLETTERS, EAAI), EURASIP JIVP, IEICE.
- Session chair:
  - APSIPA ASC 2023 Special Session: Multimedia Security and Privacy in the Age of Deep Learning
  - APSIPA ASC 2020 Special Session: Deep Generative Models for Media Clones and Its Detection.

SELECTED PUBLICATIONS

Full version: https://scholar.google.com/citations?user=8q1km_cAAAAJ&hl=en

Journal Papers

1. **H. H. Nguyen**, S. Marcel, J. Yamagishi, and I. Echizen, “Master Face Attacks on Face Recognition Systems,” IEEE Transactions on Biometrics, Behavior, and Identity Science (2022).
2. **H. H. Nguyen**, M. Kuribayashi, J. Yamagishi, and I. Echizen, “Effects of Image Processing Operations on Adversarial Noise and Their Use in Detecting and Correcting Adversarial Images,” IEICE Transactions on Information and Systems (2022). [Best paper award]
3. N. Babaguchi, I. Echizen, J. Yamagishi, N. Nitta, Y. Nakashima, K. Nakamura, K. Kono, F. Fang, S. Myojin, Z. Kuang, **H. H. Nguyen**, N. T. Tieu, “Preventing Fake Information Generation Against Media Clone Attacks,” IEICE Transactions on Information and Systems (2021). [Best paper award]
4. I. Echizen, N. Babaguchi, J. Yamagishi, N. Nitta, Y. Nakashima, K. Nakamura, K. Kono, F. Fang, S. Myojin, Z. Kuang, **H. H. Nguyen**, N. T. Tieu, “Generation and detection of Media Clones,” IEICE Transactions on Information and Systems (2021). [Best paper award]

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Conference Papers

1. **H. H. Nguyen**, T. N. Le, J. Yamagishi, and I. Echizen, "Analysis of Master Vein Attacks on Finger Vein Recognition Systems," Winter Conference on Applications of Computer Vision (WACV) 2023.
2. F. Waseda, S. Nishikawa, T. N. Le, **H. H. Nguyen**, and I. Echizen, "Closer Look at the Transferability of Adversarial Examples: How They Fool Different Models Differently," Winter Conference on Applications of Computer Vision (WACV) 2023.
3. T. N. Le*, T. Gu*, **H. H. Nguyen***, and I. Echizen, "Rethinking Adversarial Examples for Location Privacy Protection," International Workshop on Information Forensics and Security (WIFS) 2022.
4. M. Treu*, T. N. Le*, **H. H. Nguyen***, J. Yamagishi, and I. Echizen, "Fashion-Guided Adversarial Attack on Person Segmentation," Conference on Computer Vision and Pattern Recognition Workshop (CVPR-W) 2021.
5. T. N. Le, **H. H. Nguyen**, J. Yamagishi, and I. Echizen, "OpenForensics: Large-Scale Challenging Dataset for Multi-Face Forgery Detection and Segmentation In-The-Wild," International Conference on Computer Vision (ICCV) 2021. [20 citations]
6. S. Gupta, **H. H. Nguyen**, J. Yamagishi, and I. Echizen, "Viable Threat on News Reading: Generating Biased News Using Natural Language Models", NLP+CSS workshop at Empirical Methods in Natural Language Processing (EMNLP) 2020.
7. R. Huang, F. Fang, **H. H. Nguyen**, J. Yamagishi, and I. Echizen, "Security of Facial Forensics Models Against Adversarial Attacks," International Conference on Image Processing (ICIP) 2020.
8. D. I. Adelani, H. Mai, F. Fang, **H. H. Nguyen**, J. Yamagishi, and I. Echizen, "Generating Sentiment-Preserving Fake Online Reviews Using Neural Language Models and Their Human- and Machine-based Detection," International Conference on Advanced Information Networking and Applications (AINA) 2020. [19 citations]
9. **H. H. Nguyen**, J. Yamagishi, I. Echizen, and S. Marcel, "Generating Master Faces for Use in Performing Wolf Attacks on Face Recognition Systems," International Joint Conference on Biometrics (IJCB) 2020. [58 citations]
10. **H. H. Nguyen**, F. Fang, J. Yamagishi, and I. Echizen, "Multi-task Learning for Detecting and Segmenting Manipulated Facial Images and Videos," International Conference on Biometrics: Theory, Applications and Systems (BTAS) 2019. [374 citations]
11. **H. H. Nguyen**, J. Yamagishi, and I. Echizen, "Capsule-Forensics: Using Capsule Networks to Detect Forged Images and Videos," International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2019. [466 citations]
12. **H. H. Nguyen**, T. N.-D. Tieu, H.-Q. Nguyen-Son, V. Nozick, J. Yamagishi, and I. Echizen, "Modular Convolutional Neural Network for Discriminating between Computer-Generated Images and Photographic Images," International Conference on Availability, Reliability and Security (ARES) 2018. [58 citations]
13. **H. H. Nguyen**, T. N.-D. Tieu, H.-Q. Nguyen-Son, J. Yamagishi, and I. Echizen, "Transformation on Computer-Generated Facial Image to Avoid Detection by Spoofing Detector," International Conference on Multimedia and Expo (ICME) 2018.
14. T. N.-D. Tieu, **H. H. Nguyen**, H. Nguyen-Son, J. Yamagishi, and I. Echizen, "An Approach for Gait Anonymization using Deep Learning," International Workshop on Information Forensics and Security (WIFS) 2017 [Best Paper Award].

Book Chapter

1. **H. H. Nguyen**, J. Yamagishi, and I. Echizen, "Capsule-Forensics Networks for Deepfake Detection," Handbook of Digital Face Manipulation and Detection – From DeepFakes to Morphing Attacks (2022).

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2. R. Tolosana, C. Rathgeb, R. Vera-Rodriguez, C. Busch, L, Verdoliva, S. Lyu, **H. H. Nguyen**, J. Yamagishi, I. Echizen, P. Rot et al. “Future Trends in Digital Face Manipulation and Detection.” Handbook of Digital Face Manipulation and Detection – From DeepFakes to Morphing Attacks (2022).
3. T. N. Le, **H. H. Nguyen**, J. Yamagishi, and I. Echizen, “Robust Deepfake on Unrestricted Media: Generation and Detection,” Frontiers in Fake Media Generation and Detection (2022).
4. 越前功, 馬場口登, 笹原和俊, Trung-Nghia Le, **Huy H. Nguyen**, 山岸順一, Canasai Kruengkrai, 中島悠太, 李良知, 王博文, 宮崎邦洋, 小林正啓, “インフォデミック時代の AI とサイバーセキュリティ”, 映像情報メディア学会誌（2022）[Telecom Interdisciplinary Research Award].

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