

CURRICULUM VITAE

ISAO ECHIZEN



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Isao Echizen

- ✓ **Director / Professor, Information and Society Research Division, National Institute of Informatics**
- ✓ **Director, Global Research Center for Synthetic Media, National Institute of Informatics**
- ✓ **Professor, Department of Information and Communication Engineering, Graduate School of Information Science and Technology, The University of Tokyo**
- ✓ **Professor, Graduate Institute for Advanced Studies, The Graduate University for Advanced Studies (SOKENDAI)**

Doctoral degree:

2003 **Doctor of Engineering**, Tokyo Institute of Technology

Education:

1991-1995 **Bachelor of Science in Applied Physics**, Tokyo Institute of Technology
1995-1997 **Master of Science in Applied Physics**, Tokyo Institute of Technology

Career (full-time position):

1997-2007	Research Engineer , Systems Development Laboratory, Hitachi, Ltd.
2007-2014	Associate Professor , Digital Content and Media Sciences Research Division, National Institute of Informatics
2007-2014	Associate Professor , Department of Informatics, School of Multidisciplinary Sciences, The Graduate University for Advanced Studies (SOKENDAI)
2014-2017	Professor , Digital Content and Media Sciences Research Division, National Institute of Informatics
2014-2023	Professor , Department of Informatics, School of Multidisciplinary Sciences, The Graduate University for Advanced Studies (SOKENDAI)
2017-Present	Professor , Information and Society Research Division, National Institute of Informatics
2017-2019	Director , Information and Society Research Division, National Institute of Informatics
2018-2019	Deputy Director General , National Institute of Informatics
2019-2020	Acting Director General / Deputy Director General , National Institute of Informatics
2019-Present	Professor , Department of Information and Communication Engineering, Graduate School of Information Science and Technology, The University of Tokyo
2020-2021	Advisor to the Director General , National Institute of Informatics

Isao Echizen's CV (As of November 3, 2023)

- 2020-Present **Research Director**, Social Information Technologies to Counter Infodemics (CREST FakeMedia), CREST, Japan Science and Technology Agency (JST)
- 2021-Present **Director**, Information and Society Research Division, National Institute of Informatics
- 2021-Present **Director**, Global Research Center for Synthetic Media, National Institute of Informatics (NII)
- 2022-2023 **Deputy Dean**, School of Multidisciplinary Sciences, The Graduate University For Advanced Studies (SOKENDAI)
- 2023-Present **Professor**, Department of Informatics, Graduate Institute for Advanced Studies, The Graduate University for Advanced Studies (SOKENDAI)

Career (part-time position):

- 2010 **Visiting Professor**, University of Freiburg, Germany
- 2011 **Visiting Professor**, University of Halle-Wittenberg, Germany
- 2016-2020 **Scientific Research Senior Specialist**, Ministry of Education, Culture, Sports, Science and Technology of Japan
- 2017-2021 **Visiting Professor**, Tsuda University, Japan
- 2017-Present **Visiting Professor**, Joint Support-Center for Data Science Research (ROIS-DS), Japan
- 2020-Present **Japanese representative**, IFIP TC11 (Security and Privacy Protection in Information Processing Systems)

Awards (selected):

- 2009 **Gerd Griesser Award**, the International Medical Informatics Association WG4 Security in Health Information Systems (IMIA SiHIS)
- 2010 **One of the best papers**, the 25th IFIP International Information Security Conference (IFIP SEC 2010)
- 2014 **DoCoMo Mobile Science Award**, Mobile Communication Fund
- 2016 **Award for the Contribution to Culture of Security**, Institute of Information Security
- 2016 **Best paper award**, the 15th IFIP Conference on e-Business, e-Services and e-Society (IFIP I3E2016)
- 2017 **Best paper award**, the 16th IFIP Conference on e-Business, e-Services and e-Society (IFIP I3E2017)
- 2017 **Best paper award**, the 9th IEEE International Workshop on Information Forensics and Security 2017 (WIFS2017)
- 2017 **Fellow**, the Institute of Electronics, Information and Communication Engineers (IEICE)
- 2023 **Best paper award**, The Institute of Electronics, Information and Communication Engineers (IEICE)
- 2023 **BTAS/IJCB 5-Year Highest Impact Award**, IEEE Biometrics Council award at the IEEE International Joint Conference on Biometrics

Academic activities (selected):

- 2009-2011 **Editorial Board Member**, Business & Information Systems Engineering (WIRTSCHAFTSINFORMATIK)
- 2010 **Program Co-chair**, the 5th International Workshop on Security (IWSEC2010)
- 2013 **Conference Co-chair**, the 9th International Conference on Intelligent Information Hiding and Multimedia Signal Processing (IIHMSP2013)

Isao Echizen's CV (As of November 3, 2023)

2014-2016	WG Secretary , IFIP TC8-information systems: WG8.4- E-Business Information Systems: Multi-disciplinary research and practice
2014-2016	Editorial Board Member , Journal of Innovation in Digital Ecosystems, Elsevier
2014-2016	Associate Editor , Multidimensional Systems and Signal Processing, Springer
2015	Workshop Co-chair , Workshop on Privacy by Transparency in Data-Centric Services (PTDCS 2015)
2015	Organizing Co-chair , International Workshop on Digital-Forensics and Watermarking (IWDW2015)
2016	Program Co-chair , the 12th IEEE International Conference on Intelligent Information Hiding and Multimedia Signal Processing (IIHMSP2016)
2016-2019	Member , Information Forensics and Security Technical Committee (IFS TC), IEEE Signal Processing Society
2017-Present	Scientific Board Member , SBA Research, Austria
2018-2020	Chair , Multimedia Security and Forensics (MSF) Technical Committee, Asia Pacific Signal and Information Processing Association (APSIPA)
2019	TPC Co-chair , Asia-Pacific Signal and Information Processing Association Annual Summit and Conference 2019 (APSIPA ASC 2019)
2020	TPC Co-chair , Asia-Pacific Signal and Information Processing Association Annual Summit and Conference 2020 (APSIPA ASC 2020)
2021-Present	Member-at-large of the Board of Governors , Asia Pacific Signal and Information Processing Association (APSIPA)
2021-Present	Associate Editor , EURASIP Journal on Image and Video Processing
2021-Present	Associate Editor , IEEE Transactions on Dependable and Secure Computing
2022-Present	Associate Editor , Journal of Information Security and Applications, Elsevier

Membership: IEICE Fellow, IEEE Senior Member, APSIPA Member, and ACM Member

Ongoing funded projects (selected):

- [1] Social information technologies to counter infodemics (CREST FakeMedia), JST CREST, Trusted quality AI systems area, **PI: Isao Echizen**, Grant: JPY 305,462,000 (Direct); December 2020 to March 2026. (Website: <http://research.nii.ac.jp/~iechizen/crest-e.html>)
- [2] Research on master biometric information protection and utilization platform, JSPS KAKEN-HI, Grant-in-Aid for Scientific Research (A), **PI: Isao Echizen**, Grant: JPY 43,160,000; April 2021 to March 2024.
- [3] Smart Biometrics: AI driven Biometric Privacy, JSPS-DST (Japan-India) Cooperative Science Program, **PI: Isao Echizen**, Grant: JPY 2,000,000; June 2021 to May 2023.

Previous funded projects (selected):

- [1] Platform for multimedia data protection and practical use based on user preferences against spoofing attacks in biometric information, JSPS KAKEN-HI, Grant-in-Aid for Scientific Research (A), **PI: Isao Echizen**, Grant: JPY 42,250,000; April 2016 to March 2018.
- [2] Communication System for Defending against Attacks of Media Clones, JSPS KAKEN-HI, Grant-in-Aid for Scientific Research (S), **PI: Noboru Babaguchi, Co-PI: Isao Echizen**, Grant: JPY 156,910,000; May 2016 to March 2021.

- [3] Platform for Biometric Information Protection to Ensure Personal Convenience and Prevent Spoofing, JSPS KAKEN-HI, Grant-in-Aid for Scientific Research (A), **PI: Isao Echizen**, Grant: JPY 43,160,000; April 2018 to March 2021.

Selected publications (in the last six years):

- [1] C. C. Chang, H. H. Nguyen, J. Yamagishi, and **I. Echizen**, "Cyber Vaccine for Deepfake Immunity," IEEE Access, vol. 11, pp. 105027-105039, 2023, doi: 10.1109/ACCESS.2023.3311461., September 2023.
- [2] H. H. Nguyen, T-N. Le, J. Yamagishi, and **I. Echizen**, "Analysis of Master Vein Attacks on Finger Vein Recognition Systems," IEEE/CVF Winter Conference on Applications of Computer Vision (WACV 2023), 9 pages, January 2023.
- [3] 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," IEEE/CVF Winter Conference on Applications of Computer Vision (WACV 2023), 9 pages, January 2023. **[Number of citations: 11]**
- [4] T-N. Le, T. Gu, H. H. Nguyen, and **I. Echizen**, "Rethinking Adversarial Examples for Location Privacy Protection," IEEE International Workshop on Information Forensics and Security, 2022 (WIFS 2022), 6 pages, December 2022.
- [5] S. Nishikawa, I. Yamada, Y. Tsuruoka, and **I. Echizen**, "A Multilingual Bag-of-Entities Model for Zero-Shot Cross-Lingual Text Classification," The SIGNLL Conference on Computational Natural Language Learning (CoNLL 2022), 11 pages, December 2022.
- [6] S. Nishikawa, R. Ri, I. Yamada, Y. Tsuruoka, and **I. Echizen**, "EASE: Entity-Aware Contrastive Learning of Sentence Embedding," The 2022 Conference of the North American Chapter of the Association for Computational Linguistics (NAACL 2022), full paper, 11 pages, July 2022.
- [7] M. Khosravy, **I. Echizen**, and N. Babaguchi (eds.), "Frontiers in Fake Media Generation and Detection," 274 pages, Springer, June 2022.
- [8] 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 (IEEE TBIOM), vol. 4, no. 3, pp. 398-411, July 2022.
- [9] H. H. Nguyen, J. Yamagishi, and **I. Echizen**, "Capsule-Forensics Networks for Deepfake Detection," Book chapter, Handbook of Digital Face Manipulation and Detection (C. Rathgeb, R. Tolosana, R. Vera-Rodriguez, and C. Busch (eds.)), pp. 275-301, Springer, March 2022.
- [10] 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, Vol.E105-D, No.1, pp.65-77, January 2022. **[Best paper award]**
- [11] T. V. Bui, M. Cheraghchi, and **I. Echizen**, "Improved non-adaptive algorithms for threshold group testing with a gap," IEEE Transactions on Information Theory (IEEE TIT), vol. 67, pp. 7180-7196, November 2021.
- [12] 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," The International Conference on Computer Vision (ICCV 2021), 11 pages, October 2021. **[Number of citations: 40]**
- [13] S. Chen, C.-C. Chang, and **I. Echizen**, "Steganographic Secret Sharing with GAN-Based Face Synthesis and Morphing for Trustworthy Authentication in IoT," IEEE Access, vol. 9, pp. 116427-116439, August 2021.

- [14] D. Adelani, H. Mai, F. Fang, H. Nguyen, J. Yamagishi, and **I. Echizen**, "Generating Sentiment-Preserving Fake Online Reviews Using Neural Language Models and Their Human- and Machine-based Detection," Proc. of the 34th International Conference on Advanced Information Networking and Applications (AINA-2020), 12 pages, April 2020 [**Number of citations: 107**]
- [15] T. Yasui, M. Kuribayashi, N. Funabiki, and **I. Echizen**, "Near-optimal detector for binary Tardos code by estimating collusion strategy," IEEE Transactions on Information Forensics and Security (IEEE TIFS), vol.15, pp.2069-2080, November 2019.
- [16] T. V. Bui, M. Kuribayashi, M. Cheraghchi, and **I. Echizen**, "Efficiently Decodable Non-Adaptive Threshold Group Testing," IEEE Transactions on Information Theory (IEEE TIT), 15 pages, September 2019.
- [17] H. Nguyen, F. Fang, J. Yamagishi, and **I. Echizen**, "Multi-task Learning for Detecting and Segmenting Manipulated Facial Images and Videos," Proc. of the 10th IEEE International Conference on Biometrics: Theory, Applications and Systems (BTAS 2019), 8 pages, September 2019 [**Number of citations: 395, BTAS/IJCB 5-Year Highest Impact Award**]
- [18] H. Nguyen, J. Yamagishi, and **I. Echizen**, "Capsule-forensics: using capsule networks to detect forged images and videos," Proc. ICASSP 2019, 5 pages, May 2019 [**Number of citations: 495**]
- [19] D. Afchar, V. Nozick, J. Yamagishi, and **I. Echizen**, "MesoNet: a Compact Facial Video Forgery Detection Network," Proc. of the IEEE International Workshop on Information Forensics and Security (WIFS 2018), 7 pages, December 2018 [**Number of citations: 1,119**]
- [20] H. Nguyen, T. Tieu, H. Nguyen-Son, V. Nozick, J. Yamagishi, and **I. Echizen**, "Modular Convolutional Neural Network for Discriminating between Computer-Generated Images and Photographic Images," Proc. of the 13th International Conference on Availability, Reliability and Security (ARES 2018), full paper, pp. 1-10, August 2018 [**Number of citations: 58**]
- [21] H. Nguyen, T. Tieu, H. Nguyen-Son, J. Yamagishi, and **I. Echizen**, "Transformation on Computer-Generated Facial Image to Avoid Detection by Spoofing Detector," Proc. ICME 2018, pp. 1-6, July 2018 [**Top 15% papers**]
- [22] F. Fang, J. Yamagishi, **I. Echizen**, and J. Lorenzo-Trueba, "High-quality nonparallel voice conversion based on cycle-consistent adversarial network," Proc. ICASSP 2018, pp. 5279-5283, April 2018 [**Number of citations: 153**]
- [23] N. Rahmouni, V. Nozick, J. Yamagishi, and **I. Echizen**, "Distinguishing Computer Graphics from Natural Images Using Convolution Neural Networks," Proc. of the 9th IEEE International Workshop on Information Forensics and Security (WIFS 2017), pp. 1-6, December 2017 [**Number of citations: 296**]
- [24] N. Tieu, H. Nguyen, H. Nguyen-Son, J. Yamagishi, and **I. Echizen**, "An Approach for Gait Anonymization using Deep Learning," Proc. of the 9th IEEE International Workshop on Information Forensics and Security (WIFS 2017), pp. 1-6, (December 2017) [**Best paper Award**]