Gorka Abad

Curriculum Vitae. Updated: September 9, 2024





Education

2021-now **Ph.D. candidate**, *Radboud University*, Nijmegen, The Netherlands,

In collaboration with Ikerlan research center in Spain.

research area Adversarial machine learning, mostly backdoor attacks.

supervisor Dr. Stjepan Picek

2019–2020 Master's degree in cybersecurity, Universidad Internacional de La Rioja (UNIR),

Spain, 8.6/10

thesis Enhancing IoT security through DLTs 9/10

supervisor Fidel Paniagua

2015–2019 Bachelor's degree in Software Engineering, Euskal Herriko Unibertsitatea

(EHU), Spain,

thesis Online penetration testing laboratory 9/10

supervisor Juan Antonio Pereira

Experience

2020–2020 **Assistant researcher**, Euskal Herriko Unibertsitatea (EHU), Spain

Working on the Group for Adaptive Teaching-Learning Environment (Ga-Lan Group), which centers on applying Artificial Intelligence techniques for developing learning systems and

tools with dynamic adaptation to the user.

2020–2020 **Cybersecurity Engineer**, Arinn Innovation, Spain

Internship working on cloud-based WAF management.

2018–2019 **Software developer**, *IDE*, Spain

Internship working on Java software development.

Teaching

2023 Teaching assistant in master's course *Security and Privacy of Machine Learning* at Radboud University, The Netherlands.

Service to the Academic Community

2023–now Reviewer at IEEE Transactions on Information Forensics & Security (TIFS)

Publications

- 2024 Abad, G., Picek, S., Lorenzo Cavallaro, & Urbieta, A. (2024). *Context is the Key:*Backdoor Attacks for In-Context Learning with Vision Transformers. arXiv preprint.
- 2024 Abad, G., Picek, S., & Urbieta, A. (2024). *Time-Distributed Backdoor Attacks on Federated Spiking Learning*. arXiv preprint.
- 2024 Abad, G., Ersoy, O., Picek, S., & Urbieta, A. (2024). Sneaky Spikes: Uncovering Stealthy Backdoor Attacks in Spiking Neural Networks with Neuromorphic Data. Network and Distributed System Security (NDSS) Symposium.
- 2023 Pleiter, B., Tajalli, H., Koffas, S., <u>Abad, G.</u>, Xu, J., Larson, M., & Picek, S. (2023). Tabdoor: Backdoor Vulnerabilities in Transformer-based Neural Networks for Tabular Data.
- 2023 Tajalli, H., <u>Abad, G.</u>, & Picek, S. (2023). Poster: Backdoor Attack on Extreme Learning Machines. In Proceedings of the 2023 ACM SIGSAC Conference on Computer and Communications Security
- 2023 Xu, J., Abad, G., & Picek, S. (2023). Rethinking the Trigger-injecting Position in Graph Backdoor Attack. In International Joint Conference on Neural Networks (IJCNN)
- 2023 Abad, G., Xu, J., Koffas, S., Tajalli, B., & Picek, S. (2023). A Systematic Evaluation of Backdoor Trigger Characteristics in Image Classification. arXiv preprint arXiv:2302.01740.
- 2023 Abad, G., Paguada, S., Ersoy, O., Picek, S., Ramírez-Durán, V. J., & Urbieta, A. (2023). Sniper Backdoor: Single Client Targeted Backdoor Attack in Federated Learning. In First IEEE Conference on Secure and Trustworthy Machine Learning.
- 2022 <u>Abad, G.,</u> Ersoy, O., Picek, S., Ramírez-Durán, V. J., & Urbieta, A. (2022). *Poster: Backdoor Attacks on Spiking NNs and Neuromorphic Datasets.* In Proceedings of the 2022 ACM SIGSAC Conference on Computer and Communications Security (pp. 3315-3317).
- 2022 Abad, G., Picek, S., & Urbieta, A. (2022). On the Security & Privacy in Federated Learning. arXiv preprint arXiv:2112.05423.

Talks

- 2024 **Security of AI: Are we there?**At Universidad de Cantabria (UC), Spain.
- 2024 Sneaky Spikes: Uncovering Stealthy Backdoor Attacks in Spiking Neural Networks with Neuromorphic Data.
 - At NDSS'24 in San Diego, California.
- 2023 Introduction to the Security and Privacy in Deep Learning.

 At the University of the Basque Country (UPV/EHU), Basque Country.
- 2023 Security and Privacy in Deep Learning.

At the University of the Basque Country (UPV/EHU), Basque Country.

2023 Sniper Backdoor: Single Client Targeted Backdoor Attack in Federated Learning

At SaTML'23 in Raleigh, North Carolina.

2023 **Poster: Backdoor Attacks on Spiking NNs and Neuromorphic Datasets.**At Ikerlan research center.

2022 Backdoor Attacks on Spiking NNs and Neuromorphic Datasets.

At Radboud University.

- 2022 Poster: Backdoor Attacks on Spiking NNs and Neuromorphic Datasets. At CCS'22.
- 2022 On the security and privacy in Federated Learning For VeriDevOps European project.
- 2022 Sniper Backdoor: Single Client Targeted Backdoor Attack in Federated Learning

At Radboud University.

2022 Sniper Backdoor: Single Client Targeted Backdoor Attack in Federated Learning

At Ikerlan research center.

Research Visits

2024 Visiting Lorenzo Cavallaro and his team at University College London (UCL), London, UK

Courses

- 2022 Summer School on real-world crypto and privacy, Šibenik, Croatia
- 2022 Summer School on Security and Privacy, KU Leuven, Leuven, Belgium

Students Supervision

2023 Oct.— **Master's student supervision**, *at UPV/EHU & Ikerlan*, Working on the security 2024 July of SNNs.

2023 Feb. – **Bachelor's student supervision**, *at UPV/EHU & Ikerlan*, Working on adversarial 2023 June examples against autonomous driving systems.

2022 June – **Master's student supervision**, *at Mondragón University & Ikerlan*, Working on 2023 March adversarial examples against face recognition systems.

Languages

Basque Native

Spanish Native

English Advanced