Tomás Pelayo-Benedet

tomaspelayobenedet@gmail.com — tomaspelayobenedet.github.io
tomaspelayobenedet — tomaspelayobenedet — 0009-0000-9308-5688

Professional Experience

- **University of Zaragoza** — Zaragoza, Spain
  Ph.D. Researcher — May 2024 – Present
  - Research on Algorithmically Generated Domains (AGD) detection using LLMs.
  - Designed and benchmarked deep learning architectures for AGD detection.
  - Research on the application of assisted LLMs to Reverse Engineering.

  Lecturer — Oct 2025 – May 2026
  - Teaching practical sessions for undergraduate engineering courses.
- **JnT Studios** — Spain
  Co-Founder — Dec 2025 – Present
  - Lead both the planning and hands-on implementation of AI product.
  - Contribute developing core software features and infrastructure.
- **Ruhr University Bochum** *(Chair for Software Security, Prof. Dr. Kevin Borgolte)* — Bochum, Germany
  Visiting Researcher (Remote collaboration since Aug 2025) — Apr 2025 – Jan 2026
  - Research on novel applications of LLMs for binary decompilation via intermediate representations.
- **Teltronic** — Zaragoza, Spain
  Cybersecurity Engineer — May 2023 – May 2024
  - Led cybersecurity strategy and compliance for LTE (4G) product line.
  - Implemented risk mitigation policies aligned with industry standards.

  Cybersecurity Intern — Oct 2022 – Apr 2023
  - Conducted vulnerability assessments and risk analysis for telecommunications systems.

Education

- **Ph.D. in Computer Science** — 2024 – Present
  University of Zaragoza
  Research focus: AI applications in cybersecurity
- **Master of Business Administration (MBA)** — 2026 – Present
  International University of La Rioja
  Expected graduation: 2027
- **Master in Research in Cybersecurity** — 2023
  University of León
  Thesis: Detection of Algorithmically Generated Domains (AGDs)
- **Bachelor in Computer Science** — 2022
  University of Zaragoza
  Graduated with honors in Artificial Intelligence

Certifications, Courses & Other Official Studies

- **University Expert in Cyber Incident Management and Response** – University of Zaragoza — 2025
- **Containment and Forensics Expert after a Cyber Incident** – INCIBE & EICYC — 2023
- **B2 Cambridge English: First (FCE)** – Cambridge University — 2023
- **Elementary and Professional Music Studies** – CPMZ — 2011 – 2022

Skills

- **Programming:** Python, C/C++, Java, Rust, Go, JavaScript, SQL, R, Bash, Assembly
- **Machine Learning:** Deep Learning, NLP, Large Language Models, TensorFlow, PyTorch
- **Cybersecurity:** Vulnerability Assessment, Risk Analysis, Incident Response, Malware Detection
- **Tools:** Git, Docker, Linux, LaTeX, Wireshark, Nmap, Burp Suite, SIEM platforms, Binary Ninja...
- **Cloud & Infrastructure:** AWS, Kubernetes, Jenkins
- **Languages:** Spanish (Native), English (B2+)

Awards, Grants & Honors

- **Pre-doctoral Research Fellowship, Regional Government of Aragón** (2025)
  (Subvenciones para la contratación de personal investigador predoctoral en formación)
- **I3A Bridge Research Grant** (2025)
  (Ayudas para la cofinanciación de Contratos Puente de Investigación del I3A)

Talks & Conferences

- **Exploring the Zero-Shot Potential of Large Language Models for Detecting Algorithmically Generated Domains**. *Advanced Methods for Evidence-based Cybersecurity Research (EMACS) Starting Workshop*. Jaca, Aragón, España, 2026.
- **Does Representation Matter? Evaluating IRs for LLM-based Binary Decompilation**. *9th Workshop on Binary Analysis Research (BAR)*, co-located with NDSS. San Diego, CA, USA, 2026.
- **A review of "The Machines are Watching: Exploring the Potential of Large Language Models for Detecting Algorithmically Generated Domains"**. *XI Jornadas Nacionales de Investigación en Ciberseguridad (JNIC)*. Barcelona, Cataluña, España, 2026.

Publications

- Pelayo-Benedet, T., & Rodríguez, R. J. (2026). A Systematic Literature Review of Adversarial Domain Generation and Defense. *Machine Learning with Applications*, 24, 100888. DOI: 10.1016/j.mlwa.2026.100888
- Pelayo-Benedet, T., Borgolte, K., & Rodríguez, R. J. (2026). Does Representation Matter? Evaluating IRs for LLM-based Binary Decompilation. In *Proceedings of the 9th Workshop on Binary Analysis Research (BAR)*. San Diego, CA, USA: Internet Society (ISOC). DOI: 10.14722/bar.2026.23077
- Pelayo-Benedet, T., Rodríguez, R. J., & Gañán, C. H. (2025). The machines are watching: Exploring the potential of Large Language Models for detecting Algorithmically Generated Domains. Journal of Information Security and Applications, 93, 104176. DOI: 10.1016/j.jisa.2025.104176
- Pelayo-Benedet, T., Rodríguez, R. J., & Gañán, C. H. (2025). Poster: Exploring the Zero-Shot Potential of Large Language Models for Detecting Algorithmically Generated Domains. In International Conference on *Detection of Intrusions and Malware, and Vulnerability Assessment* (pp. 86-92). Cham: Springer Nature Switzerland. DOI: 10.1007/978-3-031-97623-0_5
- Pelayo-Benedet, T., Rodríguez, R. J., & Gañán, C. H. (2025). RAMPAGE: A Software Framework To Ensure Reproducibility in Algorithmically Generated Domains Detection. *Expert Systems with Applications*, 128629. DOI: 10.1016/j.eswa.2025.128629
- Pelayo, T., Arronategui, U., Bañares, J. Á., & Colom, J. M. (2022). Design and Implementation of a Compiler for Simulation of Large-Scale Models. In International Conference on the Economics of Grids, Clouds, Systems, and Services (pp. 158-162). Cham: Springer Nature Switzerland. DOI: 10.1007/978-3-031-29315-3_16