Juan Carlos Alonso Valenzuela

PhD in Computer Science | Researcher at University of Seville

Software engineer and researcher with a PhD in Computer Science, focused on automated testing of REST APIs. I build practical, AI-driven tools that solve real-world problems, with award-winning research uncovering 40+ bugs in commercial platforms like GitHub, YouTube, and DHL, leading to fixes in many of them. My expertise spans software testing, NLP, and generative AI, including work on LLM-based test oracle generation and fine-tuning open-source models. I am passionate about continuous learning and emerging technologies, and I seek industry roles where I can apply my skills to build impactful tools at the intersection of AI and software engineering.

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WORK EXPERIENCE

Researcher
University of Seville   Jan 2024 - Today

Researcher at the SCORE Unit of Excellence, focusing on AI-driven techniques for automated testing of commercial APIs. Designed and evaluated methods for LLM-based test oracle generation to uncover real-world API failures, combining software testing, NLP, and practical AI solutions.

Professor
University of Seville   Oct 2021 – Jan 2024

Taught 600 hours over three academic years alongside postgraduate studies, covering technical topics such as Docker, Linux, web scraping, web development (Django, Spring Boot), software testing, architecture, and systems integration.

IT Technician
University of Seville   Oct 2020 – Oct 2021

Applied NLP and semantic web technologies to automate REST API testing, leading to a peer-reviewed journal publication.

SKILLS

- **Languages:** Python, Java, JavaScript, R.
- **ML & Data:** TensorFlow, TensorBoard, Keras, pandas, scikit-learn, nltk, NumPy, Matplotlib, Plotly.
- **Generative AI & NLP:** HF Transformers, LangGraph, LangChain.
- **DevOps & Tools:** Git, Docker.
- **Web Development:** Node.js, Angular, React, Spring Boot, Django.

AWARDS

- ***Distinguished Artifact Award at ISSTA 2023:*** Recognized for high-quality, reproducible, and practical supplemental material with strong potential for advancing future research and practice.
- ***Second Prize, ACM SRC Grand Finals 2023:*** Awarded in an international competition involving over 250 PhD students from 19 conferences.
- ***Best scientific publication of January 2023 at the School of Informatics of the University of Seville.***
- ***First Prize, ACM SRC Graduate Category at ESEC/FSE 2022 (Singapore).***
- ***Extraordinary master's degree Award (Best record of my year).***
- ***Best Bachelor Thesis of my promotion.***

EDUCATION

PhD in Computer Science
University of Seville   Sep 2022 – Jul 2025

- With honors (cum laude).
- International mention.
- Two research stays at University of Washington (USA) and Università della Svizzera Italiana (Switzerland).
- Research on automated testing of industrial REST APIs, combining software engineering, machine learning, and NLP to create practical tools that uncovered over 40 real bugs in widely used platforms.

MSc in Software Engineering Data Science Track
University of Seville   Sep 2021 – Jun 2022

- Grade: 9.59/10
- Best record of my year.
- Subjects with distinction 5 (including thesis).

BSc in Software Engineering
University of Seville   Sep 2016 – Feb 2021

- Award for best BSc thesis.
- Subjects with distinction: 3 (including thesis).
- Completed the final year at the University of Mannheim (Germany), taking MSc courses in Data Science, NLP and AI.

LANGUAGES

- **Spanish.** Native.
- **English.** C2 – University of Cambridge.
- **Japanese.** B1 – University of Seville.