Germán
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Senior Software Engineer

Spain

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About me

Senior Software Engineer at ANSYS specializing in Python, DevOps, and CI/CD. Core contributor to PyMAPDL with 472+ GitHub stars. Focused on AI automation and intelligent systems.

Skills

- Python (NumPy/Pandas/pytest)
- Software Design (OOP/Testing/Design Patterns)
- DevOps (Docker/CI-CD/GitHub Actions)
- API Development (gRPC/REST/FastAPI)
- Project Management (Git/Agile/Coordination)
- AI Systems (RAG/Automation/LLM Integration)
- Cloud (Azure/Linux/Bash)
- Frontend (JavaScript/React/HTML-CSS)
- Machine Learning (TensorFlow/scikit-learn)

Spanish⋆6, English⋆6, Problem Solving⋆6, Code Review⋆5, Communication⋆5, Team Collaboration⋆5,

(*)-The skill scale is from 0 (Basic Awareness) to 6 (Expert).

Experience

Senior R&D Engineer, ANSYS Inc. 2023-Present
PyAnsys Ecosystem - Main Maintainer of PyMAPDL
- Lead maintainer of PyMAPDL (472+ stars): gRPC API for MAPDL solver with remote execution capabilities.
- Architected CI/CD pipelines with GitHub Actions: automated testing, code quality, multi-platform deployment.
- Docker containerization for reproducible builds and development environments.
- Managed 200+ issues/PRs, documentation, and community contributions across PyAnsys ecosystem.

R&D Engineer, ANSYS Inc. 2021-2023
PyAnsys Ecosystem - Core Contributor
- Developed Python libraries for ANSYS products: PyMAPDL, contributing to PyVista and Ansys/Actions.
- Implemented gRPC-based APIs for remote solver communication and automation.
- Built automated testing frameworks and CI/CD workflows for multi-platform support.
- Created developer tools and documentation for scientific computing applications.

Research Officer, Swansea University 2020
Medical School - Cardiology Department
- Built Python GUI app for automated microscope image analysis using deep learning and clustering.
- Implemented data pipeline for medical imaging big data processing.

Research Fellow, University College London 2019-2020
Institute of Materials Discovery
- Developed EU-funded web platform with partners (Fraunhofer, Enthought, Bosch) for materials modeling.
- Applied ML (neural networks) to predict material properties and optimize composites with ANSYS.

Project Officer, Swansea University 2018-2019
Project ASTUTE2020
- Reduced manufacturing costs using data science: neural networks and optimization algorithms.
- Built ANSYS add-on with Python/JavaScript to automate finite element operations.

Education

PhD in Civil Engineering, Swansea University (UK) 2015-2019
Micro to macro-scale material modelling using numerical techniques for energy harvesting applications. Fully-funded scholarship.
- Developed my own non-linear finite element code in Matlab for piezoelectric harvesters based on Euler-Bernoulli beams. Validated experimentally.
- Used commercial finite element packages to obtain the equivalent mechanical properties of micro composite structures (Homogenization).

M.Sc. in Structures, University of Granada (Spain) 2013-2014
Strong background in numerical methods (FEM) and machine learning techniques (NN,GA,...).

M.Eng. Civil Engineering, University of Alicante (Spain) 2010-2013
Strong background in numerical methods.

B.Eng. Civil Engineering, University of Córdoba (Spain) 2007-2010
Special award, Graduated with honours. Best student record award.