Andrés Millán Muñoz

SOFTWARE DEVELOPER · MATHEMATICIAN

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Skills

Programming languages	Python, Zig, Rust, SQL, Typst, Julia, R, Ruby, Java, and a bit of C/C++, Javascript, CSS & HTML (mostly through…
DevOps and system administration	Traefik, Nginx, Grafana, Adguard, Git, Docker, Tailscale, CI/CD (Gitlab, Github Actions), a tad bit of Nix
Languages	Spanish (native), English (fluent), French (beginner)

Work experience

Innovaciones Tecnológicas del Sur
Granada

SOFTWARE DEVELOPER & MATHEMATICIAN — *August 2024 - today*

- Designed and developed a state-of-the-art **scoring system for a federated intelligence platform**, which aims to filter out unrealiable sensitive information. This system is written in Python, exposing itself as a REST API.
- Handled operations related to such system —i.e. deployments, CI/CD, containerization, etc.— using a modern stack of Python (uv, etc.)

T-Systems Iberia - BMW
Granada

SOFTWARE DEVELOPER & DevOps — *October 2022 - August 2024*

- Member of multiple teams at BMW's Smart Factory Life Planning international project — a state-of-the-art enterprise solution to virtualize factories and their ecosystem, making them fully interactive in a 3D environment using Nvidia's Omniverse.
- Designed and implemented a Python-based REST-API server for migrating a legacy system into SW8P.
- Implemented extensions Nvidia's Omniverse main renderer —USD explorer— with tasks related to user interface, user experience and engine behavior.
- Maintained a Rust library for Omniverse which acts as a resolver, integrating legacy backends into the Omniverse ecosystem.
- Designed and implemented CI/CD pipelines and containerization for several applications using Github Actions.
- Deployed backends to the Azure Kubernetes cluster using Helm, migrating from on premise servers.

Projects

Real time ray tracing — theory, applications, and GPU-based implementation using Monte Carlo techniques
Granada, Spain

GITHUB.COM/ASMILEX/RAYTRACING — *June 2021 - July 2022*

- Thesis of the Bachelor's Degree in Computer Engineering and Mathematics.
- Implemented a Vulkan path tracing engine based on Monte Carlo integration using Nvidia DesignWorks' Nvpro-samples library. The engine is hardware accelerated on modern Nvidia's RTX GPUs. The project was inspired by Ray Tracing In One Weekend series
- Analyzed the quality of the image in terms of rendering time and noise of the reconstruction.
- Designed and implemented a CI/CD system to build and deploy the documentation of the thesis. Based on Github Actions and custom Docker container images.

Homelab

A SMALL PERSONAL SERVER — *December 2022*

- Docker-based personal homelab server running on Debian server used by multiple users.
- self-hosted services for personal use: SFTP and SMB server, monitoring (Dozzle, Portainer, Uptime Kuma), URL shortener (golinks), photograph storage (Immich), backups (Restic), remote development (VSCode server/Zed remote server), S3 object storage (Minio), Bitwarden-compatible backend (Vaultwarnde), custom automatic speech recognition endpoint
- Secured using a VPN (Tailscale), with requests handled by load balancing (Traefik) and inward-facing DNS (Adguard)

CherryTrip - UX Case Study
Granada, Spain

ASMILEX.GITHUB.IO/DIU21 — *March 2021 - May 2021*

- Analyzed, designed and mocked up an application for traveling in Granada for the pandemic era
- Deployed the result to Github Pages
- Used Figma to design the mockups

Crystalshot
Jaén, Spain

GITHUB.COM/ASMILEX/CRYSTALSHOT — *June 2020*

- A little arcade game about crystals made for a homemade gamejam.
- Developed using Unity. Multiplayer for up to 4 players.

Education

Mathematics and Computer Engineer bachelor's degree

GRANADA UNIVERSITY

Granada, Spain

September 2017 - June 2022

Advanced C1

CAMBRIDGE UNIVERSITY PRESS & ASSESSMENT ENGLISH

Jaén, Spain

July 2017

Mathematics and Computer Engineer bachelor's degree

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