Fabian Perez

Bucaramanga, Colombia | nelsonfabiancs8@gmail.com | factral.co | github.com/factral

As a Computer Scientist, I am passionate about advancing AI and its applications in both research and industry. With a strong foundation in deep learning and computer vision, along with hands-on experience in web development, I am driven to create and deploy innovative solutions. My primary interests include multimodal learning, privacy-preserving deep learning, and image segmentation. I am particularly focused on translating complex AI models into practical, real-world systems.

Education

Bachelor of Science in Computer Science 2020 – 2024

GPA: 4.38/5.0
Universidad Industrial de Santander (UIS), Colombia

Master of Science in Computer Science (Enrolled) 2025 -

Experience

KAUST: King Abdullah University of Science and Technology Sept. 2024 - Dec. 2024
Remote Internship

- Developed a NeRF-based model for hyperspectral imaging, focusing on efficient material segmentation.

Moresales Mar. 2024 - Present
AI Developer

- Created AI chatbots based on large language models (LLMs) using Retrieval-Augmented Generation (RAG) for automatic Business Intelligence.
- Developed tailored solutions that integrated conversational AI for customer support.

Universidad Industrial de Santander (UIS) May 2023. - Nov 2023.
Research Assistant

- Conducted in-depth research in Artificial Intelligence for Time-of-Flight (ToF) imaging and spectral imaging processing.
- Contributed to the formulation and co-authorship of research papers.

DLsoft Aug. 2022 - Dec. 2023
Software Developer

- Developed dynamic and responsive web applications using React.
- Built cross-platform mobile applications with Flutter.
- Implemented bots with Python to automate processes.

Publications

1. **Fabian Perez**, Brayan Monroy, Jorge Bacca, Hoover Rueda-Chacon, "Injecting Spectra: Material Segmentation from Only RGB Images using Vision Transformers and Spectral Information" *Submitted to IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2025) (Under review)*.

2. **Fabian Perez**, Hoover Rueda-Chacon, "Beyond Appearances: Material Segmentation with Embedded Spectral Information from RGB-D imagery," in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, 2024, pp. 293-301.

3. **Fabian Perez**, Jhon Lopez, Henry Arguello, "Privacy-Preserving Deep Learning Using Deformable Operators for Secure Task Learning," in *ICASSP 2024-2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2024, pp. 5980–5984.

Honors and Awards

Outstanding Thesis 2024
Author of the Undergraduate Thesis: *Material Segmentation from RGB Images Using Vision Transformer Architectures and Multispectral Information*.
Universidad Industrial de Santander, Colombia.

Winner Productivity Booster: Google Cloud Vertex AI Agent Hackathon 2024
Yipao: AI-driven SQL interactions.

Winner of Challenge 2: Indra 2024
Hunter: AI bot for automatic people analytics.

Distinguished Student 2023
Universidad Industrial de Santander (UIS), Colombia.

Skills

- Back-end web development
- Pytorch and Deep Learning Tools
- Linear Algebra, Generative AI
- Computer Vision

Languages

Spanish Native Language
English Advanced