

# JULIAN D. SANTAMARIA P

julian.santamaria@udea.edu.co

## EDUCATION

### Master of Science in Engineering (Student)

Jan 2024 - Dic 2025

Universidad de Antioquia, Medellin, Colombia

### Bachelor of Science in Electronics Engineering (GPA 4.16/5)

Feb 2018 - Dic 2023

Universidad de Antioquia, Medellin, Colombia

## ACADEMIC EXPERIENCE

### Intern

Télécom Paris, Institut Polytechnique de Paris, France.

Jan 2025 – Present

Research on domain adaptation in computer vision for biodiversity monitoring.

Supervised by Jhony H. Giraldo.

### Junior Researcher

SISTEMIC Research Group, Universidad de Antioquia, Colombia.

Jan 2024 – Present

Research on bridging the gap between foundation models and species recognition.

SISTEMIC Research Group, Universidad de Antioquia, Colombia.

Jan 2022 – Dec 2023

Machine learning for monitoring the critically endangered species *Atlapetes blancae*.

### Teaching Assistant

Universidad de Antioquia, Medellín, Colombia.

Jan 2024 – Present

Support for the undergraduate course "Computer Science I".

Universidad de Antioquia, Medellín, Colombia.



Jan 2021 – Dec 2023

Academic tutoring in the course "Digital Electronics Fundamentals".

## RESEARCH INTERESTS

Out-of-Distribution Generalization, Domain Adaptation, Wildlife Monitoring, Multimodal Learning, Graph Neural Networks, Computer Vision, Machine Learning.

## PUBLICATIONS

- **Julian D. Santamaria**, Claudia Isaza, Jhony H. Giraldo, “*CATALOG: A Camera Trap Language-guided Contrastive Learning Model*”, **Oral Presentation** (Around 8% of all submitted papers) at IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2025, a Rank A conference. 
- **Julian D. Santamaria P**, Jhony H. Giraldo, Angelica Diaz-Pulido, Claudia Isaza “*Audio vs. Visual Approach to Monitor the Critically Endangered Species *Atlapetes blancae*: Developing Deep Learning Models with Limited Data*”, The 2024 IARIA Annual Congress on Frontiers in Science, Technology, Services, and Applications, 2024. 

## PUBLICATION UNDER REVIEW

- **Julian D. Santamaria**, Claudia Isaza, Jhony H. Giraldo. “*WildIng: A Wildlife Image Invariant Representation Model for Geographical Domain Shift*”. Submitted to the International Journal of Computer Vision (IJCV).

## POSTER PRESENTATIONS

- **Audio and Video Analysis using Machine Learning for Monitoring the critically endangered species *Atlapetes blancae***, International Conference on Computer Vision - ICCV 2023 - LatinX Workshop. 2023.

## FELLOWSHIPS AND SCHOLARSHIPS

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- **NVIDIA Academic Grant**, NVIDIA AI *Bridging the Gap between Foundation Models and Camera Trap Image Recognition*. **Role:** Recipient. **10,000 A100 GPU-Hours**. Awarded for research proposal co-written with my advisor **Jhony H. Giraldo** Jan 2025 - Jun 2025.
- **Estudiante Instructor Scholarship**, Universidad de Antioquia *Funding for the Master in Engineering to support the thesis "Integración de modelos de fundación para la identificación automática de animales."* **Role:** Recipient. **€20,450**. 2024 - 2025.
- **Colombian Government Undergraduate Scholarship**, Ministerio de Educación Nacional *Funding for undergraduate studies in Electronic Engineering*. **Role:** Recipient. **€17,296**. 2018 - 2023.

## AWARDS AND HONORS

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- **Academic Excellence Award**, Universidad de Antioquia *Awarded to the highest-performing first-level student in the Electronics Engineering program*. **Semester: 2018-1**.
- **Academic Excellence Award**, Universidad de Antioquia *Awarded to the highest-performing eighth-level student in the Electronics Engineering program*. **Semester: 2023-1**.

## PROFESSIONAL SERVICE

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**Journal Reviewer:** EURASIP Journal on Image and Video Processing.

## COMPUTER SKILLS

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### Programming Languages

Python, Matlab, C/C++.

### Relevant Libraries

PyTorch, OpenCV, Transformers (HuggingFace), Weights & Biases (wandb), L<sup>A</sup>T<sub>E</sub>X.

## LANGUAGES

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Spanish: Native Language.

English: B2. IELTS: 5.5/9 (2017), Professional Working Proficiency.