Sebastian Lopez Silva

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Profile

Computer Engineering student pursuing a Master's degree in Engineering and Applied Mathematics at Mines Paris–PSL. Experienced in building backend services and AI models, with strong computer science fundamentals (data structures, algorithms, system design, and machine learning). Interested in performance, scalability, and media-oriented workflows.

Education

École des Mines de Paris - PSL, M.Sc. in Engineering and Applied Mathematics	2025 - Expected 2027
Universidad Nacional de Colombia, B.Sc. in Computer Engineering (GPA: 4.74/5.0)	2021 - Expected 2027

Experience

- **Engin AI** - *Software Engineer* (Sept 2025 – Dic 2025) – Miami, United States (Remote)
  - Improved dataset preparation and creation workflows for computer vision models, achieving 60–70% faster processing times.
  - Implemented automated annotation conversion, validation, and debugging across YOLO and COCO, reducing manual QA from 15–18 steps to 3–4 steps.
  - Designed and developed an end-to-end deepfake detection application, integrating model inference, backend services, and user-facing workflows for video and audio analysis.
  - Deployed and maintained production inference endpoints, including autoscaling/scale-to-zero to optimize performance and infrastructure costs.
  - Contributed to training and evaluation of audio classification models, increasing accuracy from 83% to 91%.
- **Dataconstructors AI** - *Software Engineer* (Mar 2024 – Sept 2025) – Bogotá, Colombia (Remote)
  - Developed backend pipelines for automated geospatial file processing in civil engineering projects, reducing processing time from ∼1 week to ∼3 hours.
  - Designed and implemented automation for report generation and live business statistics, improving delivery speed by ∼80% across client workflows.
  - Built and maintained backend systems integrating external APIs and MySQL/PostgreSQL databases using clean architecture principles.
- **Intelligent Systems Lab (LISI)** – *Research Assistant (ML)* (Aug 2023 – Aug 2025) – Bogotá, Colombia
  - Collaborated on applied ML/DL research and internal projects with undergraduate and graduate researchers, with a focus on computer vision (detection, classification, recognition).
  - Led 10+ deep learning seminars (theory + hands-on labs) for 30–40 undergraduate/master's students, covering neural networks and core ML techniques.

Projects

- **Automated Pipeline for Gaussian Splatting Model Generation** – *Mines Paris PSL - MOVIE: Ingénierie des Mondes Virtuels* (Sep 2025 – Nov 2025)
  - Developed an immersive virtual exhibition of geological artifacts using Gaussian Splatting to improve realism and visual quality.
  - Built a ∼90% automated pipeline for Gaussian Splatting dataset and model generation, reducing preparation time from ∼5 hours to ∼30 minutes (excluding training runtime).

Skills

Soft Skills: Teamwork • Problem-solving • Adaptability • Communication • Creativity • Critical thinking
Programming: Python (FastAPI, PyTorch, TensorFlow, OpenCV, etc.) • C/C++ • Julia • SQL (PostgreSQL, MySQL, Sqlite) • NoSQL (Redis, MongoDB)
Technical Tools: Git • Docker • Amazon Web Service • Azure • Google Cloud Platform
Languages: Spanish (Native) • English (C1) • French (B2) • Portuguese (Conversational)

Misc

Tuition exemption for the 2025–2026 academic year, Mines Paris PSL	Present
Tuition exemption during all academic periods; Honor Roll recipient (2022), Universidad Nacional de Colombia	Present
Top 1% GPA among university students in Bogotá (≈40 universities), Youth for Excellence	2024
ICPC UNAL contest, Competitive Programming Contest participant	2024