

Juan David Arroyo Lopez

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Summary

Final-year Civil Engineering student at Universidad Nacional de Colombia, with over 2 years of experience in geotechnical research focused on physical-mechanical characterization of soils and mathematical modeling. As a former DAAD scholar (cohort 24/25), I completed a year-long exchange at Karlsruhe Institute of Technology (KIT) in Germany. I have proficiency in infrastructure design software, geographic information systems (GIS), and programming languages. I stand out for my commitment, responsibility, and high adaptability, key skills I have demonstrated in national and international research and extension projects.

Education

Karlsruhe Institute of Technology, BSc in Civil Engineering – Karlsruhe, Germany Oct 2024 – Sept 2025
Academic exchange with emphasis on Geotechnics, Geological Engineering, Hydrogeology, and data-driven modeling with Python

Universidad Nacional de Colombia, BSc in Civil Engineering – Bogotá D.C., Colombia Mar 2020 – present
Focus on Geotechnics, Structures, and Modeling

- GPA: 4.7/5.0

Experience

Student Assistant, Faculty of Engineering at Universidad Nacional de Colombia – Bogotá D.C., Colombia Sept 2025 – present

- Member of the coordination team for the Faculty of Engineering Permanent Seminar on the environmental impact of energy projects

Intern, Institute for Soil Mechanics and Rock Mechanics (IBF) – Karlsruhe, Germany Apr 2025 – Aug 2025
Research internship as part of the KOSPIE 24/25 scholarship

- Development of a Python tool for automation in soil sample preparation using a Cobot
- Creation of user manuals for students and laboratory technicians

Student Assistant, Soil Laboratory at Universidad Nacional de Colombia – Bogotá D.C., Colombia Sept 2022 – Aug 2024

- Support in proposal preparation and structuring of research projects in civil engineering, geotechnics, and pavements
- Preparation of soil studies for structural planning and design of 7 buildings
- Participation in technical evaluations for construction, reinforcement, and restoration of institutional buildings
- Research on geotechnical applications of ash derived from biosolids incineration, promoting sustainable practices
- Development of field and laboratory tests for geotechnical and structural analysis

Awards

Combined Study and Practice Stays for Engineers from Developing Countries (KOSPIE) Aug 2024 – July 2025
DAAD scholarship for academic exchange and internship in Germany

- Selected through open call at the Faculty of Engineering in Bogotá, based on academic performance and proficiency in English and German

Skills

Languages: Spanish (native), English (fluent, IELTS Academic: B2), German (fluent, TestDaF: B2)

Software: MS-Office, Python, Slide, MIDAS GTS-X, SAP2000, ETABS, HECRAS, EPANET, SWMM, AutoCAD, Civil 3D, QGIS

Soft Skills: Proactivity, Effective Communication, Adaptability, Teamwork, Organization, Problem-Solving

Certificates

Lexium Cobot - EcoStruxure Cobot Expert Configuration May 2025

II International Forum on Risk and Prevention, Vulnerability and Improvement Sept 2023

IV International Course on Soil Exploration, Characterization and Improvement June 2023

Personal Interests / Hobbies

Interests: Science, technology, programming, languages, travel, cultures

Hobbies: Cooking, hiking, listening to music