Diego A. Lopez G.

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SUMMARY

As a senior mechanical engineering student, I am a natural leader with the ability to integrate mechanical and electronic approaches to create innovative solutions. With extensive experience working on microcontroller-based projects and leading large international teams, I am a proactive self-starter who is always eager to learn new concepts. My adaptable nature combined with my attentive learning style allows me to quickly adjust to new environments.

EDUCATION

Universidad de La Sabana — **Colombia**
B.S. Mechanical Engineering (GPA: 3.46 / 4.00) — *Senior*

EXPERIENCE

Machine Learning Research Seminar - Universidad de La Sabana
Undergraduate Researcher — *February 2023 - Ongoing*

- Collaborated with Professor Felix Mohr's research group on the characterization of capacity curves for neural networks. Utilized surrogate models to predict the accuracy of a specific configuration of hyperparameters varying number of layers and maximum units per layer.

Project Polaris - AREX
Head of Instrumentation — *March 2022 - March 2023*

- Led an international team of over 20 people in constructing a prototype for a Titan explorer (Saturn's moon) in under 21 business days.
- Directed the international team of over 5 people responsible for selecting, programming and implementing the instrumentation for the mentioned Titan explorer. Employed **Raspberry Pi** with **Python** code and **Arduino** as controllers for the instrumentation. Implemented **Autodesk Inventor** for designing custom **3D printed parts** meant for assembly.
- Coauthor and selected speaker of the paper *'Creating a Terrestrial Rover Prototype for a Titan Rover Concept'* presented at the International Astronautical Congress (IAC) 2022.

UHEV - Universidad de La Sabana — **Colombia**
Leader of Electronics — *August 2019 - March 2023*

- Developed the electronic speed controller for ultra-efficient electric vehicle's 3 phase motor using **KiCad** for **PCB** design. Performed **manual soldering** of through-hole components.
- Received an honorific mention for the innovative technical design at Shell Eco-Marathon Brazil 2022
- Contributed using **Autodesk Inventor** to produce the design and **Fusion 360** for CNC routing.
- Collaborated to manufacture carbon fiber bodywork and additional parts for the vehicle using the wet lay-up method.

Tecnologico de Costa Rica — **Costa Rica**
Laboratory Intern — *Summer 2022*

- Assisted the design of a Mobile Ground Station capable of Communicating with partner's satellites. Design implemented using **Autodesk Fusion 360**.
- Evaluation of a faulty Li-Ion battery pack implementing **LabVIEW** program.

SKILLS

Excellent written and verbal communication, hands on experience, strong interpersonal skills with demonstrated effectiveness in a team environment., can-do attitude and result oriented.

MATLAB, C/C++, Python, Machine Learning, Autodesk Inventor, Autodesk Fusion 360, FEA, HyperWorks, Linux, LabVIEW, KiCad, Microsoft Office (Excel, Word, PowerBi), LATEX.

Spanish (Native), English (C1 - professional working proficiency), German (Beginner).

HONORS AND AWARDS

- Winner of the 2019 Excellence Scholarship awarded by Universidad de La Sabana department of engineering.
- Winner of the 2021 Sabanahack hackathon awarded by Prodigious and Universidad de La Sabana.
- Certified C1 English level (IELTS 7.5 Overall Band Score).