

Kleber Andres Molina Yepez

🌐 Zittau, Germany 📞 (+49) 15907908463 ✉ kleber.molinayepez@gmail.com 🌐 Kleber Molina 🌐 AndresMolinaY

PROFESSIONAL PROFILE

Mechatronics engineering student pursuing a German-Mexican double degree, with experience in system simulation, embedded hardware integration, ECU testing, and Python-based engineering tools. Interested in systems engineering for launch vehicles, particularly subsystem interfaces and verification and validation. Seeking a mandatory internship starting in March 2027.

EDUCATION

Tecnológico de Monterrey, Campus Monterrey Expected Dec. 2027
Mechatronics Engineering GPA: 95.96/100

Academic Recognition: Top 1% Highest GPA, Engineering School (Sep. 2025).

Hochschule Zittau/Görlitz, Germany Sep. 2026 – Present
DHMK German-Mexican Double Degree Program *Mechatronics Engineering*

Program Structure: Academic semester followed by internship (Pflichtpraktikum) and Bachelor's thesis.

EXPERIENCE

John Deere | *Virtual Systems Analysis – Power Systems – Methods & Tools Intern* May 2025 – May 2026

- Designed and developed full-engine GT-SUITE simulation models, implementing modular architecture updates and supporting co-simulation environments to enhance model scalability, integration, and system-level analysis.
- Built MATLAB and Python tools to enhance simulation workflows and user experience (e.g., Dyno Tuning Automation reducing complex dyno PID tuning from hours to minutes, and BSFC/PMEP evaluation enabling easy access to key engine performance metrics).

MIT FrED Factory | *Industrial Robotics & Automation Lab* Aug. 2025 – Dec. 2025

- Led optimization of Station 3 in a 6-robot production line, reprogramming robot paths and consolidating dual PLC systems into a unified control architecture. Developed PLC logic and HMI routines while integrating Industry 4.0 monitoring and 4S practices to improve process stability

VANTTEC | *Autonomous Vehicle Development Student Group* Aug. 2023 – Feb. 2025

Electronics & Embedded Systems: Member → Team Leader

- Progressed from team member to team leader, overseeing PCB design and STM32-based embedded architecture with CAN communication, integrating subsystems into an autonomous vehicle system and delivering validated production-ready hardware.

TRANS-MATIC | *Deep-Draw Stamping Manufacturer Consultation* Aug. 2024 – Dec. 2024

- Investigated staining defects in engine components through mechanical testing and SEM analysis, delivering data-driven recommendations to improve product quality in future batches.

PROJECTS

ECU Test System Development for International Jan. 2026 – Jun. 2026

Designed, assembled, and soldered custom PCBs for an ECU test system for International, a truck manufacturer. The system enabled controlled power cycling, CAN message transmission and validation, and communication with laboratory instruments via VISA. Tested the integrated system with real ECUs.

Embedded Vision & Robot Control Infrastructure for TinyML Applications Aug. 2025 – Jan. 2026

Engineered the embedded platform for a TinyML-ready robotic system, implementing STM32 DMA-based IMU acquisition with real-time Madgwick sensor fusion, and a Dockerized Raspberry Pi streaming backend.

SKILLS

Software: C/C++, Python, MATLAB/Simulink, KiCad, SolidWorks (CSWA), Git/GitHub, LabVIEW, GT-SUITE.

Technical Skills: Embedded systems (STM32, ESP32, Arduino), CAN communication, PCB design and assembly, ECU testing and validation, PLC programming (Siemens, Allen-Bradley), hardware-software integration.

Languages: Spanish (Native), English (C1, TOEFL iBT 2026), German (A2, Goethe 2026).