KEVIN AUBERT

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I am a second-year Master's student in Electrical Engineering at the University of New Mexico, with a deep passion for motor racing, sports, and robotics. I have hands-on experience in high-profile competitions like Formula SAE and Shell Eco-Marathon, as well as advanced robotics projects involving UAVs as part of my research assistantship. I have strong technical expertise in Python, C++, MATLAB, Simulink, ROS2, and Autodesk Inventor, with a focus on systems control and autonomous robotics systems.

EDUCATION

University of New Mexico — *New Mexico, USA* Aug. 2023 - Present
MSc in Electrical Engineering: Second year GPA: 4.27 / 4.33

Emphasis: Systems and Controls

Relevant coursework: Machine Learning, Deep Learning, Autonomous Mobile Robots, Optimal Control.

University of Engineering and Technology — *Lima, Peru* 2019 – Jul. 2023
BS in Mechatronics Engineering Rank: 1st place — GPA: 19.06 / 20.0

Relevant coursework: Foundations of Robotics, Embedded Systems, Sensors and Actuators, Analysis of Signals and Systems, Control of Linear and Nonlinear Systems.

Academic Excellence Award recipient for 2020, 2021, and 2022.

EXPERIENCE

MARHES: Multi-Agent, Robotics, and Heterogeneous Systems Laboratory Feb. 2024 - Present
Research Assistant *New Mexico, USA*

- Support projects with AFRL on advanced robot manipulation and uncrewed aerial vehicle testbeds.
- Responsible for collecting data, preparing simulations, and developing hardware for various aerospace robotics projects at MARHES and AgMan (Agile Manufacturing) laboratories.
- Develop and test drone-platforms to collect data from active volcanoes as part of UNM VolCAN Project.

Medicaltech Peru Aug. 2022 - Present
Service Engineer *Lima, Peru*

- Responsible for the maintenance and technical service of over 100 FotoFinder and Sinclair medical devices across Peru.
- Trained in Bulgaria in medical equipment technology for non-invasive procedures, covering pneumatic, hydraulic, and power electronics systems.

ENGINEERING PROJECTS

Formula SAE Lobo Motorsports Aug. 2023 - Dec. 2023
Electrical Department *New Mexico, USA*

- Led the restoration of the 2022 electric prototype, managing the integration of the battery, motor, and electrical systems.

KON Team - Shell Eco-Marathon Mar. 2022 - Aug. 2023
Chief Engineer *Lima, Peru*

- Led the design, development, and optimization of our vehicle's systems to ensure top performance and efficiency.
- Top 10 in Brazil 2023, Top 15 in Brazil 2022, and Top 25 in Americas 2023 in the electric battery prototype category.
- 1st world place in the Shell Eco-Marathon Virtual League 2022.

TECHNICAL STRENGTHS

Programming Languages	Python, C++, R.
Engineering and Simulation Tools	MATLAB, Simulink, Fluidsim, ROS2, Gazebo, MuJoCo, Autodesk Inventor.
Office Software	MS Excel, MS PowerPoint, MS Word.
Languages	English (fluent), Spanish (native), German (basic)

PUBLICATIONS

[1] FlySurf: A Flying Robotic Surface with Shape Morphing Control 2025
American Control Conference (ACC) (under review)

· Authors: **Kevin Aubert**, David Saldaña, and Rafael Fierro.

[2] The Dynamic Duo: Sketch Boundary Mapping Executed by Drones 2025
International Conference on Robotics and Automation (ICRA) (under review)

· Authors: John Ericksen, **Kevin Aubert**, Abir Islam, G. Matthew Fricke, Varsha Dani, Rafael Fierro, Tobias Fischer, Scott Nowicki, Jared Saia, and Melanie Moses.

[3] Decentralized Adaptive Aerospace Transportation of Unknown Loads Using A Team of Robots 2024
International Symposium on Distributed Autonomous Robotic Systems (DARS)

· Authors: Longsen Gao, **Kevin Aubert**, David Saldaña, Claus Danielson, and Rafael Fierro.

[4] Navigating the Edge: UAV Boundary Tracing for Efficient Volcanic Plume Monitoring 2024
International Symposium on Safety, Security, and Rescue Robotics (SSRR)

· Authors: John Ericksen, Abir Islam, Carter Frost, **Kevin Aubert**, G. Matthew Fricke, Varsha Dani, Rafael Fierro, Tobias Fischer, Scott Nowicki, Jared Saia, and Melanie Moses.

[5] Land-Mobile Robots for Rescue and Search: A Technological and Systematic Review 2022
IEEE International IOT, Electronics and Mechatronics Conference (IEMTRONICS)

· Authors: Deyby Huamanchahua, **Kevin Aubert**, Mirella Rivas, Eduardo Guerrero, Laura Kodaka, and Diego Guevara.
· Best Presenter Award

EXTRACURRICULAR AND VOLUNTARY EXPERIENCE

University of Engineering and Technology 2022 - 2023
Student Representative *Lima, Peru*

· Elected by the student community to act as a liaison between UTEC area heads and students for the 2022-2023 period.

VID Organization 2020 - 2021
Professor *Lima, Peru*

· Taught scholars and pre-university students to raise funds for the Pérez Araníbar Childcare, an orphanage in Lima.

University of Engineering and Technology 2020 - 2021
Academic Mentor *Lima, Peru*

· Conducted classes in Physics, Statistics and Probability for first- and second-year students over three consecutive semesters.