

Edgar Adolfo Ochoa Mendoza

Mechatronic engineering student
Guadalajara, México
edgar.ochoamendoza@gmail.com
+52 3121552424

Work experience

02/2022

until today.

Flight computer team member | Momentum Aerospace (student group)

(Student group focused in develop rockets with payload.)

- Design 3D CAD models and manufacture mechanical components to mount telemetry sensors.
- Design and implementation of software and hardware to avoid single points of failure in the recovery system.
- Write code to save and transmit on board data using an Esp32 (C ++)
- PCBs design, manufacture, and test. (Eagle / Fusion 360)
- Assemble of electrical systems.

08 / 2022 to

12 / 2022

Research intern | Biomechatronic lab / Tec de Monterrey campus GDL

(Worked on the development and validation of a capsule for taking tomography with thermal images.)

- Wrote electronic design documentation for biomedical equipment.
- Improved and tested of software to control biomedical machinery. (Python, C ++, MATLAB)
- PCBs design manufactured and evaluated. (Eagle / Fusion 360)
- Data recollection for future improvements.

Relevant projects

02/2023

until today.

Pick and place robot | Design and development of robots (class project)

(Design and development a SCARA robot of 3 dof with a Cognex camera to select and translate objects.)

- Calculation and simulation of kinematics and control equations whit MATLAB and Coppelia.
- Design and simulate efficient circuits for control 24v step motors.
- Recognize objects and obtain positions using computer vision. (In-sight explorer, MATLAB)

08/2022 to

12/2022.

Fifth wheel | Implementation of mechatronic systems (class project)

(Development and manufacture of a fifth wheel for couple to a wheelchair to automate it.)

- PCBs design, manufacture, and test. (Eagle / Fusion 360)
- Design of embedded system to apply speed, position PID control and sensor measurement using k125z. (C)
- Developed of software for implementation of UART and I2C protocols. (C)
- Circuits simulation. (LTspice)

02/2022 to

06/2022.

Prony break | Mechatronics integration (class project)

(Development and manufacture of a Prony break to characterize motors up to 3 hp.)

- Developed and tested of software for data collection, interpretation and display. (MATLAB)
- Characterized and implemented of load and current sensor. (Strain gauge)
- Implemented OpAms to amplified sensor signals.
- Stress and strain calculations in the rotor shaft and cylinder

EDUCATION

08 / 2020 to

06 / 2024

Bachelor in mechatronic engineering

TECNOLÓGICO DE MONTERREY / GUADALAJARA, MÉXICO

SKILLS

• Software

- | | | |
|-----------------------|---------------------|--------------------|
| ○ Python (5 years) | ○ MATLAB (3 years). | ○ Microsoft office |
| ○ SolidWorks (2 year) | ○ LTspice (1 year) | |
| ○ C++ (3 years) | ○ C (1 year) | |

- **Language skills:**
 - English: Advance
 - French: beginner
 - Spanish: native
- **Work skills:**
 - Ability to communicate
 - Problem solving
 - Teamwork
 - Proactivity
 - Leadership

Certifications

- Advanced Robotics: Certificate "México connected"
- Digital skills: Santander skills certificate "Digital skills"

Portfolio

- Portafolio: <https://edgar8a30.github.io/devportfolio>