ALEJANDRA COETO SANCHEZ

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https://alecoeto-portfolio.vercel.app/

EDUCATION

Tecnológico de Monterrey
Computer Science Engineering

Aug 2022 - June 2026
GPA: 98.5/100

Relevant courses:
Data Structures (C++)
Object Oriented Programming (C++)
Computational Thinking (Python)

Prepa Tec Eugenio Garza Lagüera (2019-2022)
International Baccalaureate Diploma

IB score: 42/45
GPA: 98/100
Academic Honors

Relevant courses:
Computer Science HL (Java) 7/7
Business and Management HL 7/7

PROJECTS

Security system IOT
Nov 2023
3rd Place

- Developed a **security system** prototype for the elder, allowing them to enter their house using face recognition, and family members to monitor logs and sensors connected to an **ESP-8266** through a **web app**, establishing communication through **AWS Websocket API**.
- Programmed a **face recognition API** using **flask, docker,** face-recognition and python, hosting it with **AWS EC2** and **ELB**.
- Presented the project in **Expo-Ingenierías** 2023 (over 100 teams) and achieved **3rd place** in the entrepreneurship category.

Frida-Assistant
Sept 2023
1st Place

- Developed a **Next app** that allows users to store information, analyze it and find data through a semantic search and **Open AI chat**.
- Achieved **1st place** out of over 100 teams with my team of four in **HackMty 2023** in the Softek challenge.
- Developed the **front end** using **React** and **back end** to connect with the **cloud PostgreSQL database** using **TRPC**.
- Integrated text to speech using **AWS Polly**, reading document information live**.**

Movie & Show Tracker
July 2023 - Aug 2023

- Developed a dynamic web app to keep track and search for trending shows and movies, make a watch list, rate content and keep discussion groups with friends and the community.
- Used **React** and Tailwind for front end, **TypeScript**, Prisma, TheMovieDB API, and **MongoDB** for back end and **NextAuth** and **Google OAuth** for user authentication. Deployed successfully in **Vercel**.

Hackathon Caterpillar
May 2022 - Jun 2022
1st Place

- Created a **smart shower head prototype** using **Arduino**, featuring an electrovalve system programmed with temperature and ultrasonic sensors. Designed a CAD product.
- Achieved **1st place** with my team of three out of 16 teams.
- Presented the project in an interview with *Bar Emprende*, summarized in the ***MIT Sloan Management Review,*** reaching 1.2 K views.

COMPETITIONS

Robocup @Home
Aug 2023 - Present

- Developing **computer vision** algorithms for the **Face Detection** and **Recognition** module using **OpenCv,** Mediapipe and Face-recognition.
- Developing a display to visualize current robot states and execute basic commands using **ROS** and **React**.

ICPC Grand Prix
3rd Place

- Actively participating in **ICPC** (International competitive programming competition)
- Achieved **3th** place with a team of three in the campus placement of ICPC Mexico's Grand Prix. (Sept 2023)

Robocup Soccer
3rd Place

- Developed two autonomous soccer playing robots by programming sensor libraries, vision and movement algorithms.
- Used **arduino CLI** and **C++** for robot control and **micro-python** for **computer vision algorithms.**
- Achieved **3rd place** with my team of three in the national Robocup Soccer L. competition with **Roborregos**. (Apr 2023)

LEADERSHIP

WIT
Mar 2023 - Present
Vicepresident

- Coordinating the student group **Women in Technology** from Tecnológico de Monterrey as vicepresident.
- Organizing events with my team to enhance the progress of women in tech and promote inclusiveness, impacting over 60 students.
- **Taught programming** and app development with the MIT App Inventor tool to 20 middle school students.

Roborregos
Dec 2022 - Present

- Software developer at the **representative Robotics Team** from Tecnológico de Monterrey
- Competed in regional, national and international robotics tournaments representing ITESM.
- **Led** the mentoring and selection team for the program **Candidates** 2023. (On-campus robotics competition)

VantTec
Aug 2022 - Present

- Joined the student **research group** *Non Tripulated Autonomous Vehicles* from Tec de Monterrey in the software Roboboat team.
- Developing packages and algorithms to control an autonomous boat using **Ros 2** (Robot Operating System).

VOLTEC Robotics
Aug 2019 - Present
Mentor

- Mentoring the **FIRST FTC** (20 students) and **FRC** (over 20 students) teams, achieving top 10 in the national FTC competition (2023) and earning a place on the FRC world championship (2023).
- Teaching countinously robotics and java programming to more than 40 middleschool and highschool students.
- Led the engineering department of the high school team VOLTEC Robotics (30 - students). (2022)

PROGRAMMING LANGUAGES

3 years	Java
2 year	C++, Python
1 year	Javascript
<1 year	Typescript, Swift, Matlab, R

TECHNOLOGIES

Git, HTML, CSS, React.js, Next.js, TailwindCSS, ROS, ROS2, OnShape (CAD), Lightroom, Arduino, Node.js, MongoDB, VSCode, MacOS/ Linux/ Windows environments, SQL, Bootstraps, Azure Services, Lightroom, Node.js, Bash, Prisma, OAuth, Vercel, TRPC, OpenCv, mediapipe, face-recognition, AWS (Amazon Web Services), OpenAI, Flask.

LANGUAGES

English (B2)
German (B1)
Spanish (Native)

AWARDS

Oct 2023	**1st** place in NASA Space Apps Hack - Campeche (teams)	April 2023	**Distinguished Students in Engineering Recognition**
Sept 2023	**1st** place in HackMty 2023 in the Softek Challenge (teams)	June 2022	**1st** Place in *Educar Niñas Cambia el Mundo* hackathon (teams)
April 2023	**3rd** place in the Robocup Soccer Mexican Tournament (teams)	May 2022	Diploma for **student development** and sport leadership
April 2023	**Best Technical Challenge** RCJ TMR 2023 (teams)	May 2022	Diploma *Orgullo Prepa Tec* and Best Grade Averages