

# Hector Carrillo

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## EDUCATION

### INSTITUTO POLITÉCNICO NACIONAL

B.A.Sc IN COMPUTER ENGINEERING  
Jan 2021 - May 2025 | Mexico City  
Computer Science College (ESCOM)

### UNIVERSITY OF BRITISH COLUMBIA

B.Sc. COMPUTER SCIENCE  
Sep 2018 - Dec 2019 | Vancouver, BC

### UNIVERSIDAD PANAMERICANA HIGH SCHOOL

Grad. May 2018 | Mexico City, Mexico  
Physics and Mathematics Emphasis

## LINKS

  AC2O Project

## COURSEWORK

### UNDERGRADUATE

Principles of Software Construction  
Introduction to Microcomputers  
Computer Programming (OOP with Java)  
Linear Algebra  
Calculus

## SKILLS

### TECHNICAL

Experienced or worked with:

Java (2 yrs / Academic Use) • Python (1 yr, Project Application) • GraphQL (Professional Use) • Javascript (Node.js env, 1 yr, Professional Use) • AWS (Professional Use) • Git (2 yrs) • HTML/CSS

Familiar:

LaTeX • MySQL (Academic Use) • React.js (Project Application) • MATLAB (Focused on Machine Learning / On-ramp certificate) • C++ (Competitive Programming Use)

### SOFT SKILLS

Problem Solving (HackerRank Intermediate badge) • Creative Solutions • Fast-paced learner

### LANGUAGES

Spanish (Native)  
English (Proficient)  
German (Beginner)

## PROFESSIONAL EXPERIENCE

### KONFIO | SOFTWARE ENGINEERING INTERN

March 2020 – August 2020 | Miguel Hidalgo, Mexico

- Implemented and optimized web scrapers using JavaScript (Node.js environment) deployed to AWS for the data mining division.
- Improved reliability of the team's API increasing uptime from 60% - 70% to 95% on average by creating backup mechanisms such as circuit breakers and cache optimization.

### ARBORE PRUINA | SOFTWARE ENGINEERING INTERN

January 2021 – Present | Mexico

- Working in a new startup company (founded May 2020) to implement and design new AWS back-end architecture.
- Implementing REST APIs to provide various services for the company such as authentication, payments and email sending endpoints.
- Designed, deployed and maintaining a NoSQL Database using DynamoDB (AWS) with GraphQL endpoints. It has been tested with 100+ people in the beta phase of the project providing reliable and secure access (using Cognito authentication) to data.

## ACTIVITIES | PROJECTS

### ATMOSPHERIC CLOUD CHAMBER OF THE OKANAGAN |

#### SOFTWARE AND ELECTRONICS LEAD

Dec 2018 – Sep 2019 | Kelowna, BC

Responsible for developing a control and telemetry system on board of a physics experiment using a RaspberryPi and Python to handle the automation and sensor data retrieval. Launched to the stratosphere in partnership with the Canadian Space Agency and CNES France.

### HEAT ROBOTICS | VICE PRESIDENT AND FOUNDER

Jan 2019 - May 2019 | Kelowna, BC

Founder of the first software and robotics team of UBC Okanagan campus. Responsible for receiving more than 4000 CAD in funding to operate the team and helping 15+ students fund their trip to the UBC Vancouver Hackathon. This club was the precursor from the now Computer Science Union Club on the same campus.

### PANTERAS 2283 ROBOTICS | MEMBER AND PROGRAMMING CAPTAIN

Aug 2015 - May 2018 | Mexico City

Responsible for developing control and automation software for the FRC Competition Robot using LABVIEW deployed to NI roboRIO. National selected to represent Mexico in the FIRST Global Challenge held in Washington D.C. as member of the programming team. National selected for the 4x4 Land Rover Challenge held in Abu Dhabi, U.A.E. as Design and Engineering lead.

## AWARDS

- 2019 Canadian Stratospheric Balloon Experiment Design Challenge Winner Project
- Canadian Space Agency, Centre National d'études Spatiales & SEDS Canada 2018 Outstanding International Student Award
- University of British Columbia 2018 National Robotics Champions
- FIRST Robotics Competition 2017 Zhang Heng Award for Engineering Design, 3rd Place
- FIRST Global Competition