

# Hector Carrillo

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## EDUCATION

### INSTITUTO POLITÉCNICO NACIONAL

B.A.Sc IN COMPUTER ENGINEERING  
Jan 2021 - Dec 2024 | 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

## RELEVANT

## COURSEWORK

Principles of Software Construction (OOP, UBC)

Introduction to Microcomputers (UBC)

Linear Algebra (UBC)

Calculus I, II and III (UBC)

Introduction to Machine Learning

(Ongoing, Stanford via Coursera)

## SKILLS

### TECHNICAL

Experienced or worked with:

Java (2 yrs / Academic Use) • Python (1 yr, Project Application/ETL processes/ Data analysis) • GraphQL(Professional Use) • Javascript (Node.js env, 1 yr, Professional Use) • AWS (Professional Use) • Git (2 yrs) • MySQL(Professional Use) • C++ (Competitive Programming Use)

Familiar:

•  $\LaTeX$  • React.js (Project Application) • MATLAB (Focused on Machine Learning / On-ramp certificate)

### 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.

### FREELANCE | JUNIOR BACKEND DEVELOPER

January 2021 – May 2021

- Worked with a new startup company (founded May 2020) to implement and design their new AWS back-end architecture.
- Implemented REST APIs to provide various services for the company such as authentication, payments and email sending endpoints.
- Designed, deployed and maintained 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.

### CONTENT-OH! | JUNIOR BACKEND DEVELOPER

May 2021 – Present

- Implementing and designing AWS architecture to manage content and product data for vendors (+350). This will allow them to sell in more than 100 international digital retailers such as Walmart and Amazon seamlessly.
- Designed and maintaining a MySQL DB, constructed from non-normalized data sources. This was done through ETL processes and data analysis. Achieved a size reduction of over 50% eliminating redundant and waste 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 of the current Computer Science Union Club on the same campus.

## 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