

# Hector Alexanderson

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## EDUCATION

### CETYS University

*Bachelor of Science in Computer Science*

**Mexicali, Baja California**

Aug 2020 – Jun 2024

- **GPA:** 3.8 / 4.0; 9.7 / 10
- **Honors:** Cum Laude
- **Relevant Coursework:** Machine Learning, Data Science, Database Development, Algorithm Analysis

## PERSONAL PROJECTS

### Urban Mobility and Socioeconomic Analysis: NYC Taxi vs Uber

*Apache Spark, SQL, Snowflake, Power BI*

Apr 2025 – May 2025

- Integrated multiple datasets (NYC Yellow Taxi, Uber trip data, and sociodemographic data) into Snowflake for analysis.
- Created an ETL pipeline with Apache Spark to join trip records with income and population density data.
- Analyzed transportation choice patterns across the five boroughs, identifying correlations between income levels, population density, and Uber vs taxi usage frequency.
- Visualized urban mobility trends and socioeconomic impacts on transportation using Power BI.

### Predictive Analysis of NBA Playoffs Success: Defense Wins Championships?

*Python, XGBoost, SHAP, Matplotlib*

March 2025 – Ongoing

- Collected and cleaned 10 seasons of NBA data from nba\_api, Basketball Reference and Kaggle.
- Created variables like Experience Score, Clutch Performance, and Momentum to determine playoff success.
- Trained Logistic Regression, Random Forest, and XGBoost models to predict championship probability per playoff team.
- Visualized results with SHAP values, radar charts and timelines.

## WORK & LEADERSHIP EXPERIENCE

### Projecto Xocolate

**Mexicali, Baja California**

*Full-Stack Developer, POS Development Team*

Jan 2024 – Jun 2024

- Led a team of developers in creating and supporting a prototype Point of Sales System.
- Architected and proposed a new database structure, optimizing data flow and storage.
- Developed both Front-End and Back-End components utilizing React.
- Implemented new stored procedures and triggers within a PostgreSQL database to enhance system functionality.

### Santinos Digital

**Mexicali, Baja California**

*Web Developer, Innovation & Design Team*

May 2023 – Aug 2023

- Developed a WordPress landing page to boost digital presence.
- Built a ChatGPT powered chatbot for automating customer interactions using Chatfuel.
- Assisted in the automation of analytics reports using dashboards and webhooks.

## TECHNICAL SKILLS

- **Languages:** Python, SQL, JavaScript, TypeScript, Java, R, C/C++, Kotlin
- **Big Data & Cloud:** Apache Spark, Snowflake, Google Cloud Platform, Firebase, AWS, Azure
- **Databases:** PostgreSQL, MySQL, MongoDB, BigQuery
- **Tools & Libraries:** Pandas, NumPy, SHAP, XGBoost, Matplotlib, Power BI, Plotly, TensorFlow, RxJava, Retrofit, Git, JupyterNotebook
- **Frameworks:** React, Node.js, Express.js, Angular, Tailwind CSS
- **Other:** WordPress, Figma, cPanel, Linux/Bash scripting, REST APIs