# Jorge Luis Herrera Saavedra

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## Education

**Escuela Superior De Cómputo - Instituto Politécnico Nacional** — Expected June 2026
*Bachelor of Science in Artificial Intelligence (GPA: 3.00 / 4.00)* — *Mexico City, Mexico*
- **Relevant Coursework:** Data Structures and Algorithms (C++), Intro to Artificial Intelligence (Python) Bio-inspired Algorithms (Python), Machine Learning (Python)

## Experience

**Uber** — Sep 2023 – Actual
*Operations Intern* — *Mexico City, Mexico*
- Executed comprehensive data preprocessing pipeline in Python, including EDA, cleaning and feature engineering of high-volume data, generating valuable insights that enabled data-driven decision making and business optimization
- Led the development of a geo-spatial demand segmentation system using BST algorithms, enabling automated classification of shopping patterns
- Engineered Record Tracker, an end-to-end historical records monitoring system, featuring automated dashboard updates and weekly email alerts for new performance benchmarks, enhancing data visibility across teams
- Designed and implemented automated solutions for queries execution and dashboard generation, reducing manual workload and optimizing data processing efficiency

## Projects

**BankChurn Predictor** | *Python, Scikit-learn, SMOTE, Random Forest* — December 2024
- Implemented a Random Forest classification model using Scikit-learn to predict customer churn in banking services, achieving an overall accuracy of 92%
- Enhanced model performance through SMOTE implementation and hyperparameter optimization, reaching 88% precision on churn prediction class, enabling proactive customer retention
- Addressed class imbalance challenges by generating synthetic minority samples, significantly improving model's ability to identify at-risk customers

**Roboto** | *Python, Pygame, Heuristic Algorithm* — March 2024
- Engineered a robust random environment generator using Pygame, generating $\infty$ unique layouts, improving gameplay engagement by 70% while optimizing obstacle and sample placement.
- Implemented the A* algorithm for pathfinding, increasing navigation efficiency by 100%, allowing the agent to quickly locate randomly positioned cluster samples and delivery ships.
- Formulated a random environment generator in Pygame capable of creating high-quality environments for the project. This includes the placement of obstacles, sample clusters, and delivery ship locations.

## Technical Skills

**Languages**: Python (Advanced), C++ (Intermediate), Javascript, Bash, SQL
**Technologies**: Pandas (Advanced), Numpy, Matplotlib, Scikit-Learn (Intermediate), Pygame(Intermediate), Selenium, MySQL (Advanced), Linux
**Concepts**: Artificial Intelligence, Machine Learning, Neural Networks, Optimization and Heuristic Algorithms, A/B Testing, Relational Databases

## Leaderships

**Escuela Superior de Cómputo - Algorithmic Club**: Instructed data structures and algorithms courses while organizing the beginner's division, developing comprehensive syllabi that led to a 20% increase in new member participation. Coordinated and managed club activities for over 150+ members.
**ITESM CAMPUS PUEBLA - Algorithmic Club**: Led workshops on intermediate algorithms and data structures for regular members (10+), boosting the club's performance in local and national algorithmic competitions.

## Certifications

**Supervised Machine Learning: Regression and Classification**