

Harel Hernandez

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About me

Data Engineer with 3+ years of experience designing, building, and optimizing data pipelines, databases, and analytics platforms. Skilled in transforming raw, large-scale datasets into clean, reliable, and accessible information for business intelligence, machine learning, and operational systems. Experienced with SQL, Python, and distributed systems, with a strong foundation in cloud services, data modeling, and automation. Passionate about creating scalable data infrastructure that drives decision-making and digital transformation.

Technologies

Programming & Data: Python, SQL, C++, Bash, MATLAB

Databases: PostgreSQL, MySQL, Google BigQuery, SQLite

Data Engineering: ETL/ELT Pipelines, Airflow, dbt, Pandas, NumPy

Cloud & Infra: AWS (S3, EC2, RDS, Lambda), Docker, Git, MLflow, CI/CD pipelines

Visualization: Tableau, Power BI, Matplotlib, Seaborn

Experience

Research Assistant

Guadalajara, MX Aug 2024
– May 2025

Universidad de Guadalajara

- Collaborated with faculty researchers on a multidisciplinary project exploring the impact of artificial intelligence and digital transformation on business models in Latin America, culminating in the co-authorship of a published academic book chapter.
- Simultaneously supported laboratory experiments in the university's robotics lab, focusing on computer vision and real-time control systems for robotic manipulators.
- Developed real-time object detection pipelines using YOLOv5 and NVIDIA DOPE for 6D pose estimation in robotic pick-and-place tasks.
- Designed and validated nonlinear controllers using Lyapunov-based methods for trajectory tracking in both simulated (Gazebo/ROS) and physical robotic arms.
- Led system integration and calibration procedures, including camera-to-robot transformations, intrinsic calibration, and visual servoing using OpenCV and ROS.

Data Scientist/Engineer

January 2022 – Dec 2024

Clients: Casa de la joya, TecnoRuta (MX), Upwork, Turing

- Built and deployed end-to-end ETL workflows integrating PostgreSQL, Google Sheets, and third-party APIs for SMEs and startups.
- Designed scalable data ingestion and preprocessing pipelines handling 1M+ rows, with optimized transformations in Pandas/NumPy.
- Developed SQL data models and integrated them with BI dashboards (Power BI, Tableau) for live sales, churn, and operations analytics.
- Created anomaly detection pipelines (z-score, isolation forest) to monitor data quality in operational datasets.
- Delivered demand forecasting and segmentation projects, reframing ML deliverables into production-ready data workflows.

Software - Game Developer

Remote – Clients: Crazy
Labs, Voodoo (via Orange
Studio) June 2019 – May
2021

- Developed hyper-casual mobile games in Unity (C#) under publisher briefs from Crazy Labs and Voodoo.
- Designed and implemented game mechanics (e.g., procedural level generation, physics-based obstacles, combo scoring systems) following tight prototyping timelines of 7–14 days.
- Integrated ad monetization SDKs (AppLovin, Unity Ads, IronSource) and analytics (Firebase, GameAnalytics), tuning placements to optimize average revenue per daily active user (ARPPU).
- Led Git-based version control and CI/CD processes, including automated Android/iOS builds and remote QA handoffs through TestFlight and internal beta channels.

Education

University of Guadalajara

Aug 2021– Dec 2024

BS in Robotics Engineering

- GPA: 3.9/4.0
- **Coursework:** Robotics, Machine Learning, Computer Vision, Control Systems, Embedded Systems, Linear Algebra, Calculus.

Certifications

SQL DataBase Management

Comprehensive course covering advanced SQL concepts including database design, optimization, and complex queries

- Issuer: Udemy

Data Science for Business

Course focused on applying data science techniques to solve business problems, including data analysis, visualization, and predictive modeling

- Issuer: Udemy

Big Data Engineering Bootcamp with GCP and Azure

Comprehensive training program covering modern data engineering workflows on cloud platforms. Topics included distributed data processing with Spark, data warehousing with BigQuery and Azure Synapse, building ETL pipelines, data lake architecture, and deploying scalable solutions on GCP and Azure.

- Issuer: Udemy

MLOps

Course focused on end-to-end ML model development lifecycle, including model monitoring, automated testing, CI/CD pipelines, and production deployment using industry-standard tools like Docker, MLflow, and Kubernetes

- Issuer: Udemy

Projects

Human Resources Classification

github.com/Harel/HRC 

- Developed a machine learning model to predict employee attrition using a dataset of HR records
- Tools Used: Python, scikit-learn, Pandas, NumPy
- Achieved 90% accuracy using a Random Forest Classifier

Tableau Dashboard

tableau.com/Harel/pj 

- Created an interactive dashboard in Tableau to visualize sales data and customer demographics
- Tools Used: Tableau, SQL
- Dashboard included KPIs, sales trends, and customer segmentation analysis

Image Classification

github.com/Harel/TSF 

- Developed a convolutional neural network (CNN) model for automated classification of chest X-ray images
- Tools Used: Python, TensorFlow, Keras, OpenCV
- Achieved 90% classification accuracy in detecting pneumonia vs. normal cases