Harel Hernandez

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About me

Data Scientist with over 3 years of experience applying machine learning, statistical modeling, and advanced analytics to business challenges. Proven ability to prototype and deploy predictive models, generate business insights from complex datasets, and communicate findings effectively to non-technical stakeholders. Passionate about innovation, experimentation, and driving digital transformation.

Technologies

Programming: Python, SQL, C++, MATLAB

ML/DL: PyTorch, TensorFlow, scikit-learn, Keras, OpenCV

Data Science: Pandas, NumPy, SciPy, Matplotlib, Seaborn

Tools: Git, Docker, AWS, MLflow, Jupyter, Power BI, Tableau

Experience

Research Assistant *Guadalajara, MX Aug 2024 – present*
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.
- Conducted literature reviews, synthesized theoretical frameworks, and performed data-driven case analyses on enterprise adoption of AI, contributing to chapter sections on algorithmic management and automation in supply chains.
- 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.

Freelance Data Scientist *Remote — Platforms: Upwork, Turing, Local Clients (MX) June 2023 – Dec 2024*

- Delivered end-to-end machine learning solutions for SMEs and tech startups in retail, logistics, and healthcare via Upwork and Turing, including demand forecasting, customer segmentation, and fraud detection systems.
- Built and deployed multivariate SARIMA, XGBoost, and LSTM models for time series forecasting, improving inventory accuracy and reducing stockouts across logistics clients.
- Performed k-means clustering analyses for regional jewelry retailers, enabling personalized marketing campaigns that increased email conversion rates.
- Designed Tableau and Power BI dashboards for real-time sales monitoring, churn tracking, and A/B test results interpretation; integrated PostgreSQL and Google Sheets as data sources.
- Conducted data cleaning pipelines in Python using Pandas and NumPy for datasets exceeding 1 million rows; implemented anomaly detection for operational KPIs with z-score and isolation forest methods.

Software - Game Developer (Contractor) *Remote — Clients: Crazy Labs, Voodoo (via Orange Studio) June 2019 – May 2023*

- 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 (ARPDAU).
- 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

LLM engineering
Course focused on building LLM-powered applications using retrieval augmented generation (RAG) and multimodal capabilities, including agent development and prompt engineering techniques

- 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

Tablue 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