JACOB TINOCO

MECHATRONICS ENGINEER

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BACKGROUND

Programmer with 4 years of experience in Python and C++. Proficient in individual and team environments, with research experience in Artificial Intelligence and Computer Vision. Used tools such as Amazon Alexa Skills, OpenCV, Ollama, Mediapipe, and TensorFlow, Numpy, Matplot. Skilled in social communication, interpersonal development, and remote work. Highly responsible, self-taught, and a team player with a keen interest in artistic, philosophical and scientific knowledge.

EDUCATION

Bachelor´s Degree in Mechatronics Engineering: Speciality in Process Automatitation. **Computer Science Technician**, Specialty in computer science. **Awards:** 1st: Introduction to Artificial Intelligence with Artificial Neural Networks (ANN), 2019. 3rd: Development and implementation of security systems using home automation, 2019.

Relevant courses:

- Google Data Analytics Professional Certificate
- Machine Learning with Python by IBM
- Data Analysis with R Programming by Google
- Prepare Data for Exploration by Google
- Process Data from Dirty to Clean by Google
- Practical Python for AI coding 1 by KAIST
- Analyze Data to Answer Questions by Google
- Share Data Through the Art of Visualization by Google

EXPERIENCE

IMPLEMENTATION OF 3 LEAP MOTION CONTROLLER DEVICES ON ONE COMPUTER | PROGRAMMER

Querétaro, Mx, 2023 – 2024

In this project, I performed the development of 13 static gesture tracking algorithms using three LMC (Leap Motion Controller). Implementing programming skills in Python, (mastering libraries such as: Pandas, NumPy, matplotlib), for data processing, and use of C++ language to program such sensors, mastering in C++ the Leap Motion API for developers. By combining three sensors, the field of view is enlarged by 266% and the reading confidence is increased by 12%. Perform additional activities of documenting my processes, weekly reports and monthly reports, working as a team through effective communication in weekly meetings and constant communication with team members.

GESTURE AND HUMAN IDENTIFICATION AND TRACKING | DEVELOPER

Querétaro, Mx, 2024 – 2025

I developed Backend skills such as version control, creating my own API's and understanding third party API's, analytical thinking, project organization, problem solving and identification skills, scalable project capabilities. I made use of my mastery in Python with the following libraries: OpenCV, Numpy, Pandas, YOLO in its versions V3, V5, V11; I also developed skills in the use of Tensorflow, Keras. The goal is to develop an algorithm that allows the identification and tracking of gestures and people in real
real time and then take it to LSM interpretation.

AI, CHAT-BASED VIRTUAL ASSISTANT GPT FOR DEV'S. | DEVELOPER

Estado de México, Mx, 2024 – 2025

This project focuses on the development of a virtual assistant based on Chat GPT, using open source models provided by Ollama. I implemented the languages Pyhton, for the internal programming of the application, javascript for the graphical interface. I learned to use Django and Flask to create my API's, NLTK and SpaCy for NLP processing and text analysis. I used the Ollama developer documentation and implemented the PythonCoder V2 model. Along the way I improved my project documentation skills, developed my testing and validation skills and adapted to new tools.

SKILLS AND ABILITIES

- Artificial Intelligence
- Artificial Vision
- Chatbots development
- Version control.
- Adaptation of new tools.
- Data
- C++
- Python
- n8n
- Tensorflow
- OpenCV
- Matplotlib
- English: B2
- French: A1
- Italian: A2
- Self-learning.
- Continuing education.
- Self-taught
- Teamwork.
- Employee relations.
- Analytical Thinking
- Critical Thinking
- Empathy
- Effective communication
- Data analysis with excel
- Data analysis with R
- Data analysis with Python
- Machinne learning
- Deep learning
- Data visualization

EXPERIENCE

CNN, clothing recognition | DEVELOPER

Estado de México, Mx, 2025-today

Using tools such as Keras and Tensorflow, a CNN-type AI model was developed for clothing recognition. It takes 125x125 px images as input, classifies them, and makes a prediction that determines the type of garment recognized by the model. In the second week of April 2025, five models were trained, of which three were successfully trained and two failed due to hardware limitations. I improved my skills in data processing and analysis, and RNN and CNN AI model generation and training. Its application extends to areas such as surveillance and quality control, streaming monitoring of production lines. Project in progress at my job at Maxima Apparel.

Management and use of APIs | DEVELOPER

Estado de México, Mx, 2024 – 2025

These projects documented and consolidated API integration coverage over the last six months, including Amazon SP-API, DHL MyDHL, and FedEx Webhooks. Endpoints were classified into categories such as “always accessible, empty, and dependent on future data,” allowing for process standardization and future expansion planning. In addition, documentation practices, monitoring, and availability classification were implemented. The API management projects strengthened skills in logistics, e-commerce, and analytics service integration, contributing to the construction of a more robust and scalable automation architecture. It also represented a key exercise in managing diverse APIs, ensuring clearer control of the status of each integration and laying the foundation for future growth of the enterprise services ecosystem.

Generador de SKUs en Illustrator | DEVELOPER

Estado de México, Mx, 2024 – 2025

During its latest update, the project developed emergency scripts to ensure the continuity of graphic processes in Illustrator in cases where CSV files were not available. Improved versions of previous scripts, also created by your server in March 2025, were created, incorporating graphical interfaces with Tkinter, automatic equipment detection, TXT report generation, and detailed log recording. These improvements increased usability and reduced errors in the production of materials. Skills in advanced Python, GUI development, Illustrator automation, and backup flow design were reinforced. In addition, real-time validation techniques and automatic reports of missing nodes were implemented, enabling more efficient management. This project was key to strengthening the resilience of the design area and ensuring reliable deliveries in critical scenarios.

Automatic reports | DEVELOPER

Estado de México, Mx, 2024 – 2025

The project allowed us to develop skills in data visualization, report automation, integration of multiple services, and effective communication with stakeholders, ensuring transparency in monitoring the chatbot's performance. This project implemented flows in n8n to generate weekly chatbot reports, consolidating metrics such as the number of FAQs answered, tickets created, orders processed, and errors detected. The flows integrated Google Sheets to obtain data, JavaScript nodes to process the information, and QuickChart to graph the results. Histograms of chats and messages were generated, as well as graphs of FAQ and error distribution. The system sent the reports by email to internal teams, standardizing communication and reducing manual work.

Autogenerated TechPacks in Illustrator | DEVELOPER

Estado de México, Mx, 2024 – 2025

The system automated the creation of TechPacks in Illustrator from a consolidated CSV file. It was able to duplicate artboards based on active leaders, replace text, apply RGB colors, insert images, and export final files in AI and PDF formats. The workflow included node validation, cleaning up inactive elements, and dynamic template selection. The project was implemented on macOS with JSX and AppleScript integration, optimizing the production of graphic documents. Skills in software integration, automated workflow design, and high-quality file generation for production were strengthened. In addition, the system reduced manual errors, accelerated material delivery, and created reproducible processes for future industrial and graphic design projects.

EXPERIENCE

XLSX generator, based on templates, dictionaries, databases

Ciudad de México, Mx, 2025

The project strengthened skills in data processing, automatic validation, exception handling, and catalog normalization. It also consolidated expertise in creating customized tools for the production area, ensuring efficiency, standardization, and traceability in the delivery of files to customers. The application automated the generation of Liverpool templates from PLM data in CSV or Excel formats. The system validated sizes and colors with predefined dictionaries, generated an XLSX file by garment category, and presented an ASCII preview along with detailed logs for auditing. The graphical interface simplified its use for non-technical staff, while packaging as a desktop application allowed for deployment on multiple computers.

Maxi – Customer service chatbot | DEVELOPER

Estado de México, Mx, 2024 – 2025

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AI, CHAT-BASED VIRTUAL ASSISTANT GPT FOR DEV'S. | DEVELOPER

Estado de México, Mx, 2024 – 2025

During development, competencies in workflow design, applied NLP, and automation best practices were strengthened. The result was a robust and adaptable system, optimized to scale and respond uniformly in two different markets, integrating multiple support services into a single platform. This unified flow in n8n was designed to serve customers in Mexico and the United States. It was connected to Shopify, Zendesk, and DHL to manage orders, tickets, and tracking, as well as provide automatic responses to FAQs. It included the creation of tickets with strict validations and the recording of all interactions in Google Sheets for analysis and weekly reports. The system improved credential management, strengthened security, and standardized processes across regions.