Julen Hoppenstedt Mandiola

Student – Computer Science Engineering

I'm a passionate software developer currently furthering my studies in technology and programming. With an insatiable curiosity, I thrive on challenges and always on the hunt for new learning opportunities. Eager to bring my blend of academic insight and hands-on experience to the table, I'm ready to contribute to the next groundbreaking project.

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EDUCATION

Computer Science Engineering

Tecnológico De Monterrey

08/2022 – In progress (expected August 2026) — Monterrey, Nuevo León, México

Services Essentials for Business Diploma

Ilac International College

09/2021 – 06/2022 — Vancouver, British Columbia, Canada

SKILLS

- C++ | JavaScript | HTML | CSS | Python | Kotlin | C# | MATLAB | SQL | Git/GitHub | Unity2D | Data analysis | Statistics | Circuits.
- Bilingual (Spanish and English) | Continuous Learning | Problem solving | Leadership | Teamwork | Communication.

PROJECTS

F1 Racetrack Simulation with Graphic Interface

Tools & Technologies: MATLAB

Designed an intricate F1 racetrack simulation using MATLAB that seamlessly integrates fundamental physics concepts. This program:

- **Dynamic Track Creation**: Accepts four user-defined coordinates, then algorithmically generates a detailed racetrack that connects these points, showcasing adaptability and user interaction.
- **Comprehensive Analysis**: Provides in-depth track data, including total track length, specific curve lengths, and corresponding radii of curvature.
- **Realistic Car Simulation**: Users can input specific car parameters such as mass, velocity, as well as static and kinetic friction coefficients. The system then simulates the car's journey around the track, analyzing whether the given speed and conditions would cause a derailment.
- **Application**: This simulation not only serves as a fun, interactive tool but also offers insights into race car dynamics, potentially aiding in the design and safety analysis of real-world racetracks.

JavaScript Web Calculator

Tools & Technologies: HTML, CSS, JavaScript

Developed an interactive web-based calculator that delivers a user-friendly experience for diverse arithmetic operations. Leveraging the capabilities of:

- **HTML**: Structured a clean and intuitive user interface, ensuring ease of navigation and use for users of all technical backgrounds.
- **CSS**: Implemented responsive design principles, allowing for seamless usage across various devices and screen sizes.
- **JavaScript**: Engineered the core functionality, enabling real-time calculations, error handling, and instant feedback to user inputs.

In this project, I utilized my knowledge of front-end technologies to integrate them into a cohesive and efficient web application.

Personal Financial Data Analysis & Linear Regression

Tools & Technologies: Python, Pandas, sklearn, numpy

Engaged in a continuous data analysis project where I closely track and evaluate my financial activities, extracting relevant data from Excel sources. Key components of this project include:

- **Data Extraction & Cleaning**: Utilized Pandas to import and preprocess financial data from Excel, ensuring its readiness for further analysis.
- **Feature Identification**: Recognized critical variables influencing financial patterns, including the number of participants in an activity, the type of activity, the time of day, and the duration of the activity.
- **Linear Regression Model**: Leveraged sklearn to construct a linear regression model, aiming to predict financial outcomes based on the identified features. This model provides insights into the factors that most significantly impact my spending patterns.
- **Insightful Visualizations**: Using Python libraries, I generated various plots and graphs to visually represent financial trends over time, shedding light on habits and potential areas for optimization.

Through this project, I've harnessed the power of data science techniques to gain deeper insights into my personal finance behaviors, aiming to make more informed decisions and better budgeting choices in the future.

OTHER ENGINEERING PROJECTS

Magnetic Field Simulation of a Solenoid

Tools & Technologies: MATLAB

Designed a visualization depicting a solenoid's magnetic field, with adjustable solenoid parameters.

Media Inventory Application

Tools & Technologies: C++, pointers, Arrays

Crafted a C++ media inventory system using pointers and arrays for data management.

Personal Web Portfolio

Tools & Technologies: HTML, CSS

Built a responsive personal portfolio site showcasing skills and projects.

WORK EXPERIENCE

Produce Clerk at Choices Market

02/2022 – 06/2022 — Vancouver, British Columbia, Canada

Responsible of produce section

Oversaw detailed produce displays and inventory management, collaborating effectively with colleagues. Managed shipments, display setups, and customer interactions, highlighting proficiency in time management, problem-solving, and customer relations. Prioritized product presentation and quality, always ensuring optimal customer satisfaction.