# Johnfil Initan

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Personal Website LinkedIn GitHub

I am a computer engineering student dedicated to making impactful hardware and software solutions. I enjoy making all sorts of computer applications, and I aspire to become a digital nomad.

## EDUCATION

**Bachelor of Science, Major in Computer Engineering,** Expected June 2024
*University of San Carlos* Cebu, Philippines

## SKILLS

**Programming Languages**
C, Java, Python, Swift, PHP, HTML, CSS, JavaScript, TypeScript, x86

**Web Development**
React, Next.js, Tailwind CSS, PostgreSQL, Node.js, Django, Postman

**Data Science**
TensorFlow, Keras, pandas, NumPy, scikit-learn, MATLAB, OpenCV, Matplotlib

**Hardware & Electronics**
Arduino, Intel 8086, PIC16, Verilog, Proteus, MPLAB

**Design**
Figma, SketchUp, EAGLE, AutoCAD

**Other**
Git, Bash, Firebase, MS Office Suite, LaTeX

## PROJECTS

**Virgorus Travel Services,** *web application*
- uses Axios library for API fetches that retrieves data and dynamically displays information based on the required data field.
- route protection and admin authentication is implemented via NextAuth.

**EZ-Forms,** *web application*
- uses Next.js and the ShadCN UI library for rapid development of a dynamic user interface.
- employs the OpenAI API to create a GPT3.5-powered tool which auto-generates suggestions for fields such as descriptions, objectives, agenda, and program flows

**DProSA,** *machine learning*
- built desktop application for experimentation using Python and the Tkinter GUI library.
- leverages the NumPy, Pandas, and SciKit-Learn libraries to formulate a dynamic sorting algorithm.
- visualizes algorithmic performance data with Matplotlib to the Python-based desktop application.

**E-Plete,** *software development*
- developed a Django-based API responsible for managing RESTful operations on a PostgreSQL database which is hosted on a server configured to serve specific IPs within the local network.
- built a Python application that locally stores transaction data from an externally interfaced RFID-scanning device and syncs the local data to the database once it receives network connection.

**Soil Moisture Detector,** *hardware development*
- designed and virtually-simulated the electronic circuit via Proteus.
- programmed the main program logic of the PIC16F877A microcontroller in MBLAB IDE.
- interfaced a soil moisture sensor to read data via an interrupt service routine and displays it to a 4x20 LCD.