Carlos Dwain Sorallo

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PROFILE SUMMARY

A detail-oriented individual with a strong work ethic who wants to consistently deliver results. Eager to apply my skills and knowledge in data-related field, IT, AI, electronics and sciences in real-world applications.

EDUCATION

Mapúa University   **Intramuros, Manila**

Bachelor of Science in Physics   *Aug 2018 - April 2025*

Bachelor of Science in Electronics Engineering   *Aug 2018 - April 2025*

EXPERIENCE

UNI-President Information Philippines Corporation (UNI-PIPC) | Jr. Software Engineer   *November 2025 - present*

Ecommerce chat messenger | *Vue.js, Express.js, Node.js, MongoDB, postgreSQL, Docker, Artillery, Git*

- Built a reusable JavaScript SDK for an ecommerce chat app system comprising with standardizing integration across client applications and offering 5 core methods.
- Created comprehensive SDK documentation with 5+ API examples and structured payload references to streamline integration.
- Conduct load testing with Artillery, simulating high-concurrency scenarios (10K users) to ensure system stability and optimize API, WebSocket, and database performance for message delivery.

Accenture | Backend Developer - Data Engineer Intern   *May 2024 - March 2025*

Performance Report Automation | *Python, SQLite*

- Automated 95% of performance reporting processes by developing a Python-based data transformation tool, reducing manual workload and improving efficiency by 90%.
- Cleaned, manipulated, and validated raw Excel data using Jupyter Notebook.
- Worked closely with client's Points of Contact (POCs) to validate and refine transformation logic.
- Created comprehensive documentation for the tool.

Accenture | Japanese Campus Intern   *May 2023 - Jul 2023*

- Gained proficiency in Japanese writing systems (hiragana, katakana, kanji) and cultural understanding.
- Gained exposure to network configuration and server management using Azure through knowledge transfer sessions.
- Learned about troubleshooting router and server issues through demos on ticket handling systems.

PROJECTS & RESEARCH

Plant Health and Severity Recognition System for Pechay Using Convolutional Neural Network   2024

Mapúa University

- Developed a multioutput CNN model for real-time disease and severity classification in hydroponic Pechay.
- Curated and labeled datasets capturing health conditions (healthy, chlorotic, necrotic) and severity levels.
- Designed a PyQt-based python application with local database for user interaction.
- Integrated Raspberry Pi for continuous monitoring and early disease detection, improving crop management.

Effects of Varying Channel Length and Applied Magnetic Field in the Circuit Simulation of an All-Spin Logic   2025

Mapúa University

- Simulated an All-Spin Logic (ASL) circuit in MATLAB to analyze the impact of varying nonmagnetic (NM) channel lengths on spin signal behavior, determining a spin diffusion length of approximately 346 nm.
- Verified extracted spin transport parameters via Hanle effect simulations, estimating a spin relaxation time of ~8.13 picoseconds and confirming consistency with the observed spin diffusion length.
- Demonstrated that a time-dependent magnetic field synchronized with the voltage source can reduce spin switching delay by over 40%, identifying an optimal field strength of 163 mT through knee point analysis.

CERTIFICATIONS & ACCREDITATIONS

Huawei Certified ICT Associate - Artificial Intelligence (HCIA-AI)

SKILLS

Python
SQL / Javascript / HTML
MATLAB
c++
git

Apache Airflow
ML/DL Model Development
Data Transformation & Manipulation
ETL processes
User Interface Development

Documentation and Reporting
Process Automation
Microsoft Office 365
Microsoft and Linux OS
Virtualization (VirtualBox)

AWARDS/AFFILIATIONS:

- Mapua University:
  - Ranked 7th in ECE, Batch of 2018 (Awarded in 2020)
  - Ranked 8th in ECE, Batch of 2018 (Awarded in 2019)
  - Member of Physics Society of Mapua
  - Member of Institute of Electronics Engineers of the Philippines in Mapua
- Rizal National Science High School:
  - Exemplary Academic Performance
  - Mind Excellence Award in Mathematics
  - Excellence in Mathematics