Gil Michael Regalado (bangonkali)

Technology generalist spanning software platforms, embedded systems, industrial technology, AI applications, and engineering leadership.

GitHub · Stack Overflow · LinkedIn · YouTube · Website and current record · Complete personal record

Work Experience

Netzon Group

Chief Technology Officer

Philippines

Responsible for technical direction, system architecture, prototypes, and platform and infrastructure decisions across client products.

Stack: System architecture, FinOps, DevSecOps, AI/ML, Data engineering, Cloud infrastructure

April 2026-present

Netzon Global Tech Inc. / Netzon Group

Technical Manager / Head of Development · Full time

Davao, Philippines

Led software, DevOps, and test engineering work on healthcare and retail applications, BLE Mesh integration, energy storage, AI applications, and cloud infrastructure.

Stack: MongoDB, PostgreSQL, MySQL, Cloudflare, Angular, Flutter / Dart, React Native / TypeScript, FastAPI / Python, ASP.NET Core / C#, TensorFlow; full record online.

February 2018-April 2026

High Output Ventures

Software Engineer · Home based

Singapore

Built Node.js microservices for messaging and CRM integration using MongoDB, RabbitMQ, and Amazon SQS. Deployed containers on AWS and DigitalOcean.

Stack: MongoDB, React, FlowJS, Nodejs, SocketIO, RabbitMQ, Amazon SQS, Docker, Portainer, AWS; full record online.

15 April 2017-31 January 2018

Emerson Process Management · PlantWeb Solutions Group

Software Engineer

Pasig City, Philippines

Designed and developed Industrial Internet of Things solutions and Distributed Control Systems software, with quality assurance, performance testing, and compliance testing.

Stack: MFC C++, C#, WinForms, Angular 1, MS SQL, ASP.NET

8 August 2016-30 March 2017

Emerson Process Management · PlantWeb Solutions Group

Test Automation Engineer

Pasig City, Philippines

Developed hardware and software test automation using C#, Python, OpenCV, and a distributed test framework backed by RabbitMQ.

Stack: Python, Sikuli, OpenCV, C#, MSTest, C++ UI Automation, Selenium, MS SQL, TFS, RabbitMQ

28 May 2014-8 August 2016

Emerson Process Management · PlantWeb

Intern Test Engineer · College internship

Pasig City, Philippines

Supported DeltaV testing and a test rig connecting distributed control systems, PLCs, and Rosemount sensors.

Stack: C# WinForms, PLC programming, DCS programming, MATLAB

April-June 2013

City Social Welfare and Development Office · Iligan City

Freelance IT Personnel · Home based / freelance during college

Iligan City, Philippines

Developed a PHP/MySQL application with map integration for evacuation-center population monitoring after Typhoon Sendong.

Stack: AWS EC2, MySQL, CodeIgniter, Yii, PHP, JavaScript, HTML, Google Maps

18 December 2011-March 2012

Selected Public Projects

Dash: a project-management workspace

Systems & platforms · Project date not recorded

A React and TypeScript project-planning tool with tasks, progress, Gantt charts, and simple resource management.

Tools: React, TypeScript, OneDrive, Office 365, Gantt charts

Overwatch: distributed image verification

Systems & platforms · Emerson test-automation work

An internal Emerson testing framework exposing OpenCV image analysis to C# test-automation clients.

Tools: OpenCV, Python, C#, NuGet, RabbitMQ, CodedUI, UI Automation, MSAA

Embedded vision on Cyclone V

Electronics & embedded systems · 2013-2014 research · 2023 publication

Linux, USB camera support, and an OpenCV face-detection application on the Altera SoCKit ARM/FPGA board.

Tools: Cyclone V SoC, ARM, Linux, OpenCV, Quartus, QSys, Linaro, UVC

Smart energy monitoring and control

Electronics & embedded systems · 2014

A residential energy-metering prototype using an ADE7753, Arduino, local display, GSM reporting, and a web application.

Tools: ADE7753, Arduino, PCB design, GSM, GPS, LCD, Web applications

Arduino to the real-time web

Electronics & embedded systems · 2012

A 2012 experiment sending Arduino data through a serial connection and Node.js to a live browser interface.

Tools: Arduino, Serial I/O, Nodejs, SocketIO, jQuery, Apache

Agus Maps: native maps in Flutter

Systems & platforms · 2026

An offline-map proof of concept integrating the CoMaps C++ engine with Flutter and platform graphics APIs.

Tools: Flutter, Dart FFI, C++, CoMaps, OpenStreetMap, Metal, EGL, OpenGL

Trapo: local document ingestion

Systems & platforms · 2026

A local document workbench for inspecting OCR text, page images, regions, and processing history.

Tools: Rust, React, Python, DuckDB, OCR, PDFium, Native runtimes, OpenAPI

Generalist Skills with Hands-on Experience

Software, web and mobile development

C#, C, C++ / MFC, Python, Java, Node.js, JavaScript / TypeScript, VB.NET, Swift, Kotlin, Borland Delphi, and Mono for Linux. ASP.NET Core; PHP with CodeIgniter, Symfony, and Laravel; HTML; React, React Native, Ionic, Angular, jQuery, and Meteor. Native Android and iOS development, plus Xamarin, React Native, Ionic, and Flutter. SQL Server, MySQL, PostgreSQL / TimescaleDB, IBM Db2, MongoDB, InfluxDB, Elasticsearch, RediSearch, and CouchDB with Hyperledger.

Distributed computing

Distributed architecture with .NET Orleans and Dapr. Microservices and service buses for real-time industrial monitoring and messaging, using NServiceBus, RabbitMQ, AMQP, MQTT, and Amazon SQS.

Server management and cloud

Linux and Windows server systems, MySQL, Apache, and NGINX for online clients and local government. VMware vSphere / NSX, Kubernetes / K3s, Proxmox, and bare-metal Hyper-V; a personal laboratory for continuing study. AWS, Google Cloud, Azure, OVH, Linode, and European colocation providers.

DevSecOps and delivery

GitHub Actions, Bitbucket Pipelines, Azure Pipelines, Terraform, Ansible, Docker, and Kubernetes. Managed Kubernetes and self-hosted clusters on bare metal and private cloud. Deployment, evaluation, and integration of Git, GitHub, Bitbucket, GitLab, Jira, Jenkins, TeamCity, SonarQube, Snyk, Cloudflare, and third-party security products.

AI and machine learning

Design, development, deployment, and validation of a TensorFlow-based clinical decision-support system for ICU facilities. Hands-on experiments with NVIDIA Jetson Nano and Xavier NX. Basic AI/ML classes for colleagues and friends, plus an invited online conference talk. AI application integration with Semantic Kernel, LangChain, Promptflow, AutoGen / AG2, Model Context Protocol, and Agent-to-Agent Protocol. Services from Amazon Bedrock, Azure AI Foundry, Google Gemini / Vertex AI, AssemblyAI, Groq, xAI, DeepSeek, OpenAI, and ElevenLabs.

Industrial control

Hands-on Siemens S7-200 PLC programming. DeltaV distributed control systems and Rosemount sensor testing during the Emerson internship.

FPGA and digital design

Altera Cyclone II Starter Development Kit and Arrow SoCKit hybrid ARM / FPGA development board. Synopsys Verilog synthesis, Altera Quartus, QSys, and ARM SoC EDS.

Microelectronics, analog and embedded systems

Design and product-development participation in a BLE 5.0 Mesh IoT device and application suite. Application-layer development and embedded interfacing for a home battery appliance supporting solar input and electric-car charging. Synopsys analog tools, Verilog digital design, Proteus VSM, and Eagle PCB design. PlatformIO, Arduino, HI-TECH C, Atmel Studio, and Microchip MPLAB X.

Certifications and Qualifications

ISTQB-BCS Certified Tester Foundation Level

BCS, The Chartered Institute for IT / UK Testing Board

Awarded May 12, 2015

Credential record

CMAP Mobile App Testing - Foundation Level

iSQI GmbH

Awarded 2014

Credential record

Vibration Analyst: Category II

Emerson Process Management Educational Services

Awarded February 13, 2015 · Valid through February 13, 2020

Credential record

Bachelor of Science in Electronics & Communications Engineering

Mindanao State University - Iligan Institute of Technology

Awarded April 10, 2014

Credential record

Publications

Integration of OpenCV and Cyclone V Hybrid ARM and FPGA SoC for Face Detection Application

Gil Michael E. Regalado, Jefferson A. Hora, Gene Fe P. Palencia, Harreez V. Quimque, Nieva M. Mapula

22nd International Symposium on Communications and Information Technologies (ISCIT), Sydney · pp. 1-5. 2023.

DOI: 10.1109/ISCIT57293.2023.10376045

Education

BS Electronics & Communications Engineering

Mindanao State University - Iligan Institute of Technology · 2009-2014

Graduated April 10, 2014

Completed the engineering degree alongside college research, the Emerson internship, and freelance work for the Sendong response.

- Integration of OpenCV and Cyclone V FPGA and ARM SoC for face detection, presented to the BS ECE program and awarded College Best Thesis.
- Smart online and real-time energy monitoring and control for residential electricity providers, presented in the BS EE program and recognized in the DOST-PCIEERD competition.

Secondary education

Philippine Science High School - Central Mindanao Campus · 2005-2009

Secondary education at the Central Mindanao Campus in Nangka, Balo-i, Lanao del Norte.

- Student Information Management System for Philippine Science High School - Central Mindanao Campus.

Awards / Honors

Finalist, First Electronics Design Competition

DOST-PCIEERD · March 27, 2014

Best Presenter, First Electronics Design Competition

DOST-PCIEERD · April 7, 2014

College Best Thesis, ECE program

MSU-IIT College of Engineering · April 7, 2014

DOST-SEI Merit-A College of Engineering Scholar

Department of Science and Technology · School years 2009-2010, 2010-2011, and 2011-2012

Presentations

AI and machine-learning online talk

Date not recorded

OpenCV and Cyclone V face-detection research

November 12, 2014 to November 16, 2014

Integration of OpenCV and Cyclone V Hybrid ARM and FPGA SoC for Face Detection Application

October 16, 2023 to October 18, 2023