Gil Michael E. Regalado

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Iligan City, 9200 Philippines

Quick Links
https://stackoverflow.com/users/546506/bangonkali
https://www.youtube.com/bangonkalist
https://ph.linkedin.com/in/bangonkali
https://github.com/bangonkali/

Work Experience

Company: Netzon Global Tech Inc (Web)
Address: Davao, Philippines
Position / Designation: Technical Manager, Full time
Responsibilities: Responsible for managing a team of software, devops and test engineers in the design, architecture, research, development, devops and support for a variety of systems. Product lines that I have been involved with recently include healthcare information systems, augmented reality retail applications, commercial and home automation IoT solutions (BLE 5.0 Mesh), an energy storage solution, and a host of other information systems mostly operating in Sweden.

Internally spearheaded the setup and compliance to ISMS ISO/IEC 27001|2 and responsible for all technical aspects towards compliance. Collaborated with Network and IT Security Vendors including Microsoft Azure, Google Cloud, Amazon AWS, ESET Security and Internal Client Networks to ensure that all Network Hardware and Software dependencies to support compliance are in place and audited periodically.

In addition to people management responsibilities, I am also responsible for prototyping, proposing, reviewing, lobbying, and driving consensus for technical decision making in terms of Architectural, Platform, Framework, Infrastructure, and other Technical Considerations while coordinating with Program Managers, Project Managers, and providing awareness for other non-technical stakeholders and client executives should they require. More recently, I am involved with migrations, and validation of existing client and in-house projects in to either self-hosted Kubernetes deployments or cloud-hosted Kubernetes as a Service deployments and hybrid – depending on client preference.

Stack: MongoDB, PostgreSQL, MySQL, Cloudflare, Angular, Flutter (Dart), React Native (Typescript), Fastapi(Python), AspNetCore(C#), TensorFlow, Cloud (AWS, Google, Azure, Linode, OVH, VMWare based Private Cloud), Deploying Kubernetes as a service and K3s Self-Hosted, Deploying Self-hosted Gitlab, Protobuf Integration, Android Native (Kotlin), iOS Native (Swift) & more. Generally, focuses on Architecture, Template Development for Sr Devs to propagate for rest of Team, Prototyping Architecture Proposals & Management in more recent times.
Period: Feb 1, 2018 – Present

Company: High Output Ventures (Web)
Address: Singapore
Position / Designation: Software Engineer, Home Based
Responsibilities: Designed and implemented NodeJS (Flow Typed) micro-services for Facebook Messenger and Contact Information Management Integration of a CRM Application. Utilized MongoDB and RabbitMQ for the storage and message queuing support. The entire microservice architecture was deployed on top of a dockerized infrastructure in a mix of Amazon, and Digital Ocean Docker Swarm managed using Portainer. Also spearheaded the design of a hybrid Service Bus architecture using Amazon SQS for other 3rd party integrations to maximize service discoverability while ensuring scalability and customizability of the entire application. The whole project was delivered at a rapid pace in an agile environment to validate a startup MVP.
Stack: MongoDB, React (FlowJS), NodeJS FlowJS Backend w/ Socket.IO, Messenger/Gmail services integrations
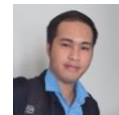*Period: April 15, 2017 – January 31, 2018*

Company: Emerson Process Management - PlantWeb Solutions Group – Manila (Web)
Address: 19th Floor Cyberscape Alpha Building, Sapphire and Garnet Roads, Ortigas Center, Pasig City
Position / Designation: Software Developer
Responsibilities: Involved in design and software development of Industrial Internet of Things solutions and Distributed Control Systems product line. Also, actively participated in the quality assurance, performance testing, and compliance testing. Developed MFC C++, C# WinForms and ASP Dot Net Applications.
Stack: MFC C++, C#, WinForms, Angular 1, MS SQL, ASP Net
Period: Aug 8, 2016 – March 30, 2017

Company: Emerson Process Management - PlantWeb Solutions Group – Manila (Web)
Address: 19th Floor Cyberscape Alpha Building, Sapphire and Garnet Roads, Ortigas Center, Pasig City
Position / Designation: Test Automation Engineer
Responsibilities: I am tasked to optimize product quality assurance and reduce time to market by designing, developing and implementation of automated test systems for Emerson Process Management hardware and software products. My responsibilities primarily involved automating the software testing of the prototype, in-development, and legacy, products using a variety of tools including, but not limited to Visual Studio CodedUI, MSAA, UIA in C#, and Selenium for Browser Based Products. Also introduced the use of Machine Vision library OpenCV to apply image-based verification. I developed the Test Framework and its custom components that will allow other Test Automation Engineers and Test Engineers to decrease time spent implementing tests on Software and Hardware Products.
Stack: Python, Sikuli, OpenCV, C# MS TEST, UI Automation C++, MS SQL, TFS
Period: May 28, 2014 – Aug 8, 2016

Company: Embedsourcing
Address: Iligan City
Position / Designation: (Home Based/ Freelance) Software Developer
Responsibilities: I was hired to solve critical system requirements for the company's project involving secure real-time, Linux server administration and geospatial information system support for their web application. I was able to carefully navigate in an environment where most of the people under my supervision were older and had more tenure in the company and still able to deliver in a short period of time a system framework based on Meteor.JS with a clustered MongoDB Database in a Linux environment that could allow the company's developers to develop web-based and real-time discount coupon distribution system catering clients in the USA. I also introduced the company to Git source control versioning system resulting in an increased efficiency in the company's management of their source code.
Stack: Firmware C/C++ ESP32/8266, Atmel, NodeJS/MeteorJS, SocketIO
Period: November 2013-February 2014 (freelancing during college)

Company: Emerson Process Management – PlantWeb ([Web](#))
Address: One San Miguel Avenue, Pasig City
Position / Designation: Intern Test Engineer (On-the-job training)
Responsibilities: I had the opportunity to learn on the job supporting the [Emerson DeltaV Distributed Control Systems](#) Test Engineering Team. I was tasked to assist in testing a variety of hardware systems including but not limited to DCS, PLC and a variety of Rosemount sensors and their software components. My ability to adapt and learn quickly allowed me to contribute much to the design and implementation of a test rig consisting of multiple DCS, PLC, and Sensors on the very short span of time for my Internship.
Stack: C# Winforms, PLC & DCS programming, and Matlab
Period: April 2013-June 2013 (internship during college)

Company: Western Cowboy Wear
Address: Gallup, New Mexico, United States of America
Position / Designation: (Home Based/ Freelance) Server Administrator & IT Consultant
Responsibilities: Initially offered consultation services for Development and Implementation of an Online Store with integrated support to hardware point-of-sale systems of the company's retail store and later became Linux Server system administrator and Magento Online Store Web Developer. I was able to offer a highly integrated and automated system reducing man hours spent in synchronizing product quantity and availability with the actual store and the online virtual store by consuming data from point-of-sale systems allowing the company to focus more on the retail activities.
Stack: PHP, MySQL, OpenCart, Magento themes and plugin development
Period: October 2009-February 2014 (freelancing during college)

Company: City Social Welfare and Development Office
Address: Saray, Iligan City
Position / Designation: (Home Based/ Freelance) IT Personnel
Responsibilities: During the aftermath of the Typhoon Sendong calamity, I was hired to design and implement a data gathering solution to monitor the City's Population and be used as Tracking System of the affected areas of the calamity. In just a span of 3 days, I was required to develop and was able to deliver a web-based system which the City Department used for person tracking. The system was able to handle more than a hundred thousand personal data while being used by 7 evacuation centers scattered around Iligan City all the while delivering real-time statistics to local government officials and other recipients. My efficient coordination with the International Organization on Migration (IOM) and United Nations (UN) representatives during the entire phase of the project was instrumental to the success of the project. I was able to deliver a highly integrated system resulting to reduced time spent on synchronizing data from different evacuation centers and providing real-time information for the City's decision makers to hasten the City's recovery from the aftermath of the storm.
Stack: AWS EC2, MySQL, Codeigniter then Yii (PHP/JS/HTML), Google Maps (JS) integration
Period: *December 18, 2011 – March 2012 (freelancing during college)*
Related Content: *[A section of slides takes from an old Speaking Engagement](#)*

Notable Personal (no-NDA or public) Projects

Title: Dash – a simple Project Management Tool
Subject: React Typescript
Description: A simple react based Project Management tool I personally developed for work to help track Waterfall Projects without needing to use expensive Subscriptions. The web app can track tasks, progress, produce Gantt chart, and have a very simple resource management feature. The project is an internal tool used for projects that do not need dedicated Trello, Jira, or MS Project. Though the Project is an internal tool, we have decided to make it public because of its open architecture wherein it does not need a backend and project files can be saved in any Personal OneDrive or Office 365 directory. I have also decided to create the tool to explore how might such a thick client webapp be architecturally designed and what modern integrations, state management libraries and integrations to use in a comparable project. The inspiration for this project came from draw.io.
Project Link: https://dash.netzontech.com/

Title: Waning – 3d Graphics Web Development
Subject: Graphics Programming, Game Engine
Description: A proof of concept 3D Graphics Environment for Game Development for studying feasibility of deploying 3d based Web Applications. I was mostly interested in integrating react over a canvas that is being rendered in a separate thread. This project proves that it can work and that I have established the high-level concepts to make it work.
Project Link: https://github.com/bangonkali/waning
YouTube Link: https://youtu.be/FTpA-2oCqts

Title: Esspresif Based Wireless Controller Integration
Subject: Electronics, WiFi, Digital Design
Description: A simple proof of concept wireless controller implemented using Arduino Library. This is main done as part of my occasional hobby of tinkering with electronics and the real time web.
Video Link: YouTube https://goo.gl/N7E4Pu

Title: Overwatch Testing Framework (Emerson, Internal)
Subject: OpenCV, Image Analysis, Distributed System
Description: A distributed Image Analysis System that exposes OpenCV Library Functionalities to Test Automation Engineers through a C# Nuget that extends traditional text-based verification to cover computer driven image-based verification. Image Analysis workers are coded in Python using OpenCV Library which connects to an Erlang-based RabbitMQ Message Queue that distributes work coming from Overwatch C# API Nuget that are used to extend text based CodedUI, UIA, MSAA Automation. Due to the nature of the Framework's architecture, it is scalable by just adding multiple workers.
Video Link: not available
Documentation: Privately hosted internal tool

Title: Hybrid FPGA & ARM based solution for Computer Vision
Subject: Microelectronics, VLSI
Description: A single Chip solution to a wide array of computer vision problems with a potential support for hardware acceleration. The prominent application is Face Detection for embedded sensor systems or for devices such as Digital Camera, Mobile Phones, and Security Camera. Was later presented to an international conference and awarded College Best Thesis Award for the Electronics and Communications Engineering Program.
Video Link: https://goo.gl/aHTY0L
Documentation: https://github.com/bangonkali/sockitcv

Title: Real-time and Online Data Sensor System (University Thesis)
Subject: Electronics, Software Development
Description: Developed a novel solution to allowing Sensor data for real-time and web-based consumption using NodeJS and an Arduino Board. The project was noticed by the Arduino Company and the main article is now posted on their blog. The potential application includes real-time monitoring for remote sensor networks.
Video Link: http://goo.gl/jlyWSK
Documentation: http://goo.gl/eBO828

Title: Power Meter System (University Project)
Subject: Electronics, PCB Design, Analog Design
Description: Developed a Power Metering System that allows for accurate Energy monitoring for residential power distributors. The project was one of the finalists for 1st PCIEERD Electronics Design Competition and I was awarded Best Presenter Special Award during its presentation at Crowne Plaza Manila Galleria, Ortigas, Quezon City, on March 27, 2014. Awarded best in presentation in the First PCIEERD Electronics Design Competition held by DOST.
Video Link: YouTube https://goo.gl/b0eo0V
Documentation: GitHub https://goo.gl/wtmIoE
Featured On: PCIIEERD DOST News Letter (Page 7)

Title: NodeJS for Windows (Freelancing work)
Subject: Software
Description: Developed one of the first Windows-based installers for NodeJS garnering roughly **7,000** downloads in a span of 4 months until the company officially received backing from Microsoft to support Windows.
Documentation: Old Presentation and Google Code
Video Link: https://www.youtube.com/watch?v=hrdSN9ezDl0

Title: jVerilog (Hobby)
Subject: Electronics, Digital Design
Description: A simple UI wrapper for the Windows based port of the Icarus Verilog.
Video Link: YouTube https://goo.gl/mlINbd
Documentation: Github https://goo.gl/1JHOQ3

Title: Cubbieboard Project (Hobby)
Subject: Electronics, Digital Design
Description: Multiple projects based on the Chinese Development Board Cubbieboard 2.0. Applications include Computer Vision customizing the Linux Firmware.
Video Link: http://tinyurl.com/cubbieboard

Generalist Skills with Hands-on Experience

- Experienced in working with software development environments/languages such as Visual Studio C#, C, C++ (MFC), Python, Java, NodeJS, JavaScript/Typescript, VB.Net, Swift, Borland Delphi, Kotlin, Swift and Mono for Linux.
- Web Site Development using ASP NET Core, PHP (CI, Symphony, Laravel), NodeJS, HTML, JavaScript/Typescript with React, React Native, Ionic, Angular, jQuery, Angular 2 and MeteorJS.
- Mobile Development in native Android (Java, Kotlin), iOS (Swift) or Hybrid (Xamarin, React Native, Ionic.
- Working knowledge on Database Systems involving SQL (MS SQL, MySQL, PostgreSQL/ Timescale DB, IBM UDB2) and NoSQL (MongoDB, Influx DB, Elasticsearch, Redisearch, CouchDB with Hyperledger) architectures.
- Distributed software development using Microservice or Service Bus architecture with experience in development of applications for Real-time Industrial Monitoring and Chat Messaging Applications and relevant experience using NServiceBus, RabbitMQ, AMQP & MQTT, and Amazon SQS.
- Hands-on and client involvement with container orchestration through Ansible, Docker Containerization, Kubernetes-as-a-service, and deployment of self-hosted Kubernetes on on-premises bare-metal and private cloud infrastructure.
- Personally, led the deployment, evaluation, and validation of multiple DevSecOps, CI/CD and Integrations with a variety of existing client infrastructure and acquisition of new on-premises or cloud-based infrastructure for Software Development Workflow tools such as self-hosted Git, GitHub, Bitbucket, Gitlab, Jira, Jenkins, and TeamCity, SonarQube, Snyk, Cloudflare and a variety security product from third party vendors.

Server Management Skills

- Linux, MySQL, Apache, NGinX - Works part time designing and maintaining server systems in both Linux and Windows platforms for online clients from around the world and Local Government units.
- Experienced working with VMware vSphere (NSX), Kubernetes Clusters (k3s), Proxmox, Baremetal Hyper-V. I also maintain my own laboratory for continuing education.
- Worked extensively with Amazon AWS, Google Cloud, Azure, OVH, Linode, and collocation providers in Europe.

AI/Machine Learning

- Directly involved in the Design, Development, Deployment, and eventual Validation of a TensorFlow Based Health Care Decision Support System for ICU facilities.
- Personally owns, codes for and studies Nvidia Jetson Nano and Nvidia Xavier NX as a personal hobby.
- Teaches basic AI/ML Classes to friends' co-workers and got invited to speak at an online conference broadcasted live. See recording of the Live Event here.

Programmable Logic Controller Programming Skills

- With one semester experience, working hands on with S7-200 Siemens PLC devices.

FPGA Programming Skills

- Altera Cyclone II Starter Development Kit & Altera Arrow SoCKit Hybrid ARM & FPGA Development Board
- Synopys Verilog Synthesis and Altera Quartus, QSys, ARM SoC EDS

Microelectronics, Analog, and Digital Design Skills

- Involved in the Design and Product Development of a BLE 5.0 Mesh IoT suite of devices and application for a Swedish IoT Company.
- Involved in the Design and Product Development the application layer and interfacing with Embedded Electronics for a Home Battery Appliance for Solar Input and Electric Car charging.
- Familiarity in using Synopsys based tools for Analog and Verilog for Digital Design
- Also familiar with Proteus VSM and EagleCAD PCB Designer
- Familiar with Embedded Electronics Development Platforms such as Platform IO, Arduino, Hi-tech C, Atmel Studio, MPLabX from Microchip.

Certifications

Certified Tester Foundation Level in Software Testing
International Software Testing Qualifications Board

Certified Mobile Applications Professional - Mobile App Testing - Foundation Level iSQI GmbH,
License 14-CMAPFL-TE-67219-31

Mechanical Vibration Analyst Category II
Emerson Process Management, License MHM120954

Publications

HNICEM '14   **Integration of OpenCV and CycloneV FPGA and ARM SoC for Face Detection Application**
7th International Conference on Humanoid, Nanotechnology, Information Technology, Communication, and Control, Environment, and Management, November 12-16, 2014, Hotel Centro, Puerto Princesa, Palawan, Philippines

Education

Tertiary   Bachelor of Science in Electronics & Communications Engineering
Mindanao State University - Iligan Institute of Technology (2009 – 2014)
Completed 2 Thesis: **1.** Integration of OpenCV and CycloneV FPGA and ARM SoC for Face Detection Application
(Awarded College Best Thesis, Presented to BS ECE Program)
2. Smart Online & Real-time Energy Monitoring and Control System for Residential Electricity Providers
(Awarded Best Presentation on an Electronics Design Competition, BS EE Program)

Secondary   Philippine Science High School – Central Mindanao Campus (2005 – 2009)
Nangka, Balo-i, Lanao del Norte, Philippines
Research work: A Student Information Management System for PSHS – Central Mindanao Campus

Awards/Honors Received

Title: Finalist in 1st PCIEERD DOST Electronics Design Competition **Issued by** Engr Raul C. Sabularse, Rowena Cristina L. Guevara, PhD **on** March 27, 2014

Title: Special Award for Best Presenter at PCIEERD Electronics Design Competition **Issued by** Atty. Edgar Allan A. Donasco, Dean of College of Engineering **on** April 7, 2014

Title: College Best Thesis Award for ECE Program **Issued by** Atty. Edgar Allan A. Donasco, Dean of College of Engineering **on** April 7, 2014

Title: DOST SEI Merit-A College of Engineering Scholar **Issued by** Department of Science and Technology **on** SY 2009-2010, SY 2010-2011, SY 2011-2012

Personal Information

Date of Birth: September 16, 1992   Citizenship: Filipino
Place of Birth: Iligan City, Lanao del Norte, Philippines   Civil Status: Single

Father's Name: Gil Tan Regalado
Substation Electrical Engineer,
National Grid Corporation of the Philippines

Mother's Name: Victoria Echavez Regalado
Retired Electronics Technician,
National Steel Corporation of the Philippines

Character Reference

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