

## **OGINNE LAPUZ | Electronics Engineer**

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**Career objective:** Results-driven individual providing maximum efficiency and effectiveness in the field of electronics and communications engineering through various designs in analog and digital electronics

### **AREA OF SPECIALIZATION/INTERESTS**

- Communications: BLE, GSM, IoT, LAN and WLAN, LoRaWAN, Mesh networking, RF, ZigBee RF
- Electronics hardware: Audio amplifier design, Battery charging systems, Body communications, Control and measurement systems, Power supply design (Linear/SMPS), Sensor development, Servo and stepper systems, Signaling
- Embedded: ATMEGA, Arduino, ESP series, Raspberry Pi, STM series
- Interfacing: I2C, I2S, RS232/Serial, RS485, 1-wire
- Rapid prototyping: CNC milling, Laser cutting, 3D printing

### **WORK EXPERIENCES**

#### **PRODUCT DEVELOPER/EMBEDDED SYSTEMS ENGINEER**

**July 2017 - Present**

NRS Enlight FZE/NRS INTERNATIONAL FZE, Dubai, United Arab Emirates

- Developed embedded applications for battery operated equipment
- Designed multilayer PCBs for various products
- Developed metering systems for battery charging, load analysis and control applications
- Developed payment processes for services (Pay-as-you-go)
- Provided technical product support to sales team and partners, and create manuals for new products
- Set-up and programming of pick-and-place PCB assembly machines
- Designed high voltage, large scale solar systems - Coordinating with civil engineering teams for successful implementation of design and construction
- Created SOPs for product assembly for technicians, supervisors and co-engineers on projects
- Design casings for various products, and integration with electronic and mechanical components - Including designing shock-proof casings, meeting IP ratings for water and dust-proofing

#### **ELECTRONIC DESIGN/EMBEDDED SYSTEMS ENGINEER**

**April 2016 - November 2017**

Eva Technologies Inc., Dubai, United Arab Emirates

- Design of electronic circuits, printed circuit boards and firmware development
- Consultations on product and electronic system development
- Implementation of IOT (Internet-of-Things) based systems
- Integration of hardware and software components
- Created hardware libraries for components

#### **HARDWARE/EMBEDDED SYSTEMS ENGINEER**

**October 2009 - Present**

Independent private practice, United Arab Emirates/Philippines

- Design sensors, control circuits, wireless systems, signaling and control circuitry based on required specifications of client along with PCB design
- Provide consultation, research and experimentation based on electronic systems
- Perform duties as a panelist and research adviser for research/thesis studies

#### **SERVICE and SYSTEMS ENGINEER**

**July 2015 - July 2017**

Integrated Technologies L.L.C, Dubai, United Arab Emirates

- Design and integrate low voltage systems with current systems on site, by providing solutions with regards to client requests in upgrading, integrating or replacement of existing systems
- Deal with installation, maintenance and repairs of gate barriers, configuration of access controls, SMATV, computer networks and structured cabling
- Coordinate with project engineers, technicians, contractors and sub-contractors in order to complete project handover within target completion date including providing level 2 support to field teams

- Perform IT related works such as backups, network upgrades and computer repairs

#### **REMOTE OPERATIONS ENGINEER (TRAINEE/INTERN)**

**March 2013 - June 2013**

ABS-CBN Broadcasting Corporation, Baguio City, Philippines

- Set up, operated and maintained microwave LOS (Line of Sight) using microwave transmitters, modulators, amplifiers, antennas and receivers
- Set up, operated and maintained studio lighting, video equipment, cameras, video mixing board, digital video recorders (DVRs), audio equipment (microphones, mixers and amplifiers)
- Set up, operated and maintained power generators and radio communications for remote operations and other related studio communication equipment

#### **SOUND ENGINEER (University scholarship)**

**February 2012 - September 2014**

University of Baguio, Baguio City, Philippines

- Set up, operated and maintained audio equipment (mixing consoles, microphones, amplifiers, recording equipment, musical instruments, wirings) while supervising recording sessions and concerts
- Designed and implemented sound proof studios
- Troubleshoot and repair faulty electronic equipment and instruments

### **EDUCATIONAL BACKGROUND**

#### **BACHELOR OF SCIENCE IN ELECTRONICS ENGINEERING (BSEcE)**

University of Baguio, Baguio City, Philippines

Projects accomplished

- Smart Patient Temperature Monitor - Thesis, March 2014
- Power Charging Shoes

**CCNA (Modules 1-4):** Network Fundamentals, Protocols and Concepts, Switching and Wireless, Accessing the WAN

### **SKILLS, KNOWLEDGE AND ABILITIES**

#### **Hardware**

Equipment: DC loads, function generators, logic analyzers, multimeters, oscilloscopes, pick and place machines, programmable power supplies, spectrum analyzers, 3D printers

#### **Software**

PCB design: Altium, Diptrace, EagleCAD, KiCAD

2D and 3D design: AutoCAD, DesignSpark Mechanical, Fusion360, LibreCAD

Simulations: LTSPICE, MATLAB, Multisim, Proteus, SCILAB

Programming: ATMEL Studio, Arduino IDE, C++, Processing, Python

### **PROJECTS DESIGNED AND ACCOMPLISHED**

- IOT weather station with LED temperature display
- Automatic school bell system
- Automatic water level maintenance for rice fields
- Battery energy monitor using coulomb counting techniques
- Multi-sensor bus network
- Bluetooth home lock
- Body communications network
- Centralized home energy meter
- Doorknob sensor with GSM alarm
- Petrol station price board
- Pump controller with GSM remote monitoring
- RFID based library management
- Remote sensor monitoring
- Robotic arm
- Seismic detector with GSM alarm
- Self-sustaining garden
- Soil moisture meter with GSM alarm
- Solar street lamp
- Temperature monitor with GSM alarm