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EDUCATION

Manila, Philippines **De La Salle University-Manila** **2011 – October 2016**

- M.Sc. in Electronics and Communications Engineering, October 2016. GPA: 3.6000
- B.Sc. in Electronics and Communications Engineering, October 2016.
- Graduate Coursework: Advanced Mathematics, Methods of Research, Technopreneurship, Genetic Algorithms, Fuzzy Logic, Neural Networks, Robotics
- Graduate Thesis: *Simulation and Implementation of Physicomimetics in Quadrotor Swarms*

TECHNICAL EXPERIENCE AND NOTABLE PROJECTS

Key Projects

- **Design and development of quadrotor swarm as a test bed for swarm algorithms** (2016). Designed software architecture and system to autonomously control a swarm of quadrotors through radio signals from a central server. Designed and coded dual-stage PID controller for flight stabilization. Added modularity to the system to allow team members to easily upload swarm algorithms for testing. Used physicomimetics as a basis for a self-organizing and self-adapting swarm algorithm. Python
- **DLSU Eco Car Electrical team member 2014-2016** (2014-2016). Personally designed, fabricated, and programmed a motor controller, battery management system, speed sensor, lights board, wiper board, and SD card based memory module for Shell Eco-Marathon Asia 2014, 2015, and Shell Eco-Marathon Europe 2016. C
- **Neural network for recognition of in-flight quadrotor images** (2015). Wrote neural network to recognize images of CrazyFlie quadrotor in flight with up to 94 percent accuracy. C
- **Sikat Solar Challenge 2015 DLSU-Manila team member** (2015). Helped design and propose a business model aimed at installing micro-hydro power plants in various rural and isolated communities in the Philippines.
- **1x1x1 inch remote-controlled robot** (2014). Part of team that designed, fabricated, and programmed a 1in x 1in x 1in remote-controlled robot for competition in the International Micro Robot Maze 2014 contest held in Nagoya, Japan. C

Personal Projects

- **WiFi sniffer** (2016). Designed a program to automatically capture and decrypt random WiFi signals from the air and display packet information in a user-friendly GUI. Python, SQL
- **Remote-controlled home appliance switch** (2014). Designed, fabricated, and programmed an infrared remote control-based system for remote switching of common household appliances. C

ADDITIONAL EXPERIENCE AND AWARDS

- **Open-source software contributions (2016):** Wrote both the implementation and the corresponding unit tests of a stacked generalization ensemble classifier using cross-validation for *mlxtend*, an open-source library of extension and helper modules for Python's data analysis and machine learning libraries.
- **Started 3D printing business (2015 onwards):** Started offering 3D printing services to customers near my location. Used Facebook as the main avenue for advertising and customer acquisition. Facebook page currently at 11K likes (Get 3D PH – Philippines 3D Printing).
- **Philippine government scholarship recipient (2014-2016):** Recipient of DOST-ERDT scholarship for Master's students.
- **University scholarship recipient (2011-2016):** Recipient of Bro. Andrew Gonzalez Academic Scholarship for undergraduate studies.
- **Published academic papers (2014-2016):** Multiple scientific papers (two as first author) regarding quadrotor swarming algorithms accepted into various conference proceedings.

Languages and Technologies

- Python (proficient), C (PIC embedded applications), Matlab (prior experience), Java (prior experience)