

# ROYCE CHUA

## COMPUTER ENGINEERING

Technological Institute of the Philippines (TIP) QC

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### CAREER OBJECTIVE

To establish a career in Computer Engineering where I can demonstrate the learning outcomes of the Computer Engineering program of the Technological Institute of the Philippines (TIP), a program accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET) and the Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA).

### DESIGN PROJECTS COMPLETED/ RESEARCHES

Design of a Somnolence Detection System Utilizing Deep Neural Network

This design project is about somnolence/drowsiness detection by monitoring three facial parameters: Eye Movement/Eye Closure, Mouth movement/Yawning, Head Movement/Nodding or head tilting using the SqueezeNet Deep Neural Network. The system will alarm the driver through an Audio Amplifier module and LEDs and send a notification or alert to a web application once somnolence/drowsiness is detected. The system was composed of both hardware and software where the hardware is composed of a camera fitted with IR LEDs to allow night time use, the Raspberry Pi where the Deep Neural Network algorithm is stored, and LEDs for visual notification to the driver.

Red Cross QC Dispatch and Tracking System

The Red Cross Dispatch and Tracking System is composed of Dispatching subsystem and the vehicle tracking subsystem. The dispatching system is composed of several CRUD and reporting applications for managing the records of Red Cross QC. The tracking system displays Red Cross vehicles location on a map using Traccar API, Open-Street Maps and OpenLayers framework. The tracking system also lists down nearby ambulances to an emergency and provides a route to the emergency using OpenRouteService API.

### ON-THE-JOB TRAINING/ PRACTICUM/ INTERNSHIP EXPERIENCE

- Intern (Mobile App Developer)

Philippine Campus Crusade for Christ

40 Scout Borromeo, South Triangle Quezon City

December 04, 2018 - February 06, 2019

In my on-the-job training, I was assigned to a team to develop a mobile application according to their requirements using the React Native Javascript framework for Mobile Development and Python Flask for developing the REST API and MongoDB as the database.

### KNOWLEDGE, SKILLS AND ATTITUDE

As I have completed my program/course BS Computer Engineering in TIP with its orientation towards outcome-based education, I have acquired and can demonstrate the following student outcomes (knowledge, skills and attitudes) necessary to the practice of the computing profession:

- *Analyze complex problems and identify and define the computing requirements appropriate for solution.*
- *Use modern techniques and tools of the computing practice in complex activities.*
- *Understand professional, ethical, legal, security and social issues and responsibilities relevant to professional computing.*

## LEADERSHIP ACTIVITIES

- Design Project Officer (Batch 2019)
  - Vice President External (A.Y. 2018-2019)
- Institute of Computer Engineers of the Philippines Student Edition (ICpEP.SE) TIP-QC Chapter
  - Vice President of Academic Affairs (A.Y. 2018-2019)
- Red Cross Development Team (T.I.P Technocore Project)
  - Project Team Leader (May 2018 - October 2018)
- CpE Seminars and Field Trips
  - Vice President for External Affairs (1st Semester A.Y. 2018-2019)
- Campus Christian Fellowship (CCF) Student Organization
  - Auditor (A.Y. 2017-2018)
  - Vice President External (A.Y. 2016-2017)
  - Secretary (A.Y. 2015-2016)

## SEMINARS AND TRAININGS ATTENDED

- DataMeetsAI (DataScience Meets Artificial Intelligence) Seminar  
TIP-QC  
September 29, 2017
- Python and Django Full Stack Web Developer Bootcamp  
Online Course  
September 13, 2017
- Gizduino EX - Two-Day Arduino Microcontroller Programming and Applications Workshop  
Sparklab Innovation Center  
October 22, 2016
- Multiplatform Mobile Development Through Web Technologies Seminar  
TIP-QC  
September 20, 2016
- Mechatronics Servicing NC II Training  
MTC Virata Hall, UP Diliman  
June 11, 2016
- Internet of Things(IoT) Summit  
Megatrade Hall SM Megamall  
August 17, 2018

## EXTRA AND CO-CURRICULAR ENGAGEMENTS AND VOLUNTEER WORKS

- T.I.P Technocore (Red Cross Development Team)  
Project Team Leader, Back-end Developer  
June 13, 2018 - October 22, 2018
- Abstract and Emotional Quotient (ACE-Q)  
Math and Physics Tutor  
June 13, 2016 - April 13, 2018
- T.I.P Career Center  
Peer Adviser  
June 13, 2016 - April 13, 2018
- Microsoft Imagine Cup 2018  
National Finalist  
February 14, 2018 - March 05, 2018
- Youthack Manila Code Weekend 2017  
Champion  
June 11, 2017 - June 12, 2017

## OTHER SKILLS

- Technical Skills
  - Programming (C, Python, Java)
  - Database Designing and Programming (MySQL, MS SQL)
  - Circuit Analysis & Designing
  - Embedded Systems Designing
  - Computer Network Designing and Troubleshooting
  - Computer Troubleshooting
- Soft Skills
  - Communication
  - Flexibility
  - Leadership
  - Teamwork

## REFERENCES

Engr. Alonica Villanueva  
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