Giovanni Salinas

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linkedin.com/in/gsalinaslopez | github.com/gsalinaslopez | C/C++, Python, Java/Kotlin, Swift

Education

National Chiao Tung University *October 2020*
Masters in Electrical Engineering and Computer Science. *GPA: 3.61, Percentile: 81.48/100* *Hsinchu, Taiwan*

National Chiao Tung University *June 2016*
Undergraduate in Computer Science. *GPA: 2.85, Percentile: 73.13/100* *Hsinchu, Taiwan*

Experience

Industrial Technology Research Institute *Jan - Jun 2018 | Jul - Aug 2017*
Software Developer. *Part-time (2018) | Internship (2017)* *Hsinchu, Taiwan*

- Developed a **Java/Android** encoder/decoder *(BER)* API wrapper for intelligent transportation networks by porting a native **C** runtime library *(ASN.1 C)*
- Implemented **Java/Android** high-level API wrappers for interfacing with the device's LTE Evolved Multimedia Broadcast Multicast Services *(eMBMS)*

EpiSonica *Sep 2016 - Oct 2017*
Software Developer. *Part-time* *Hsinchu, Taiwan*

- Improved the company's ultrasonic medical device usage workflow by fixing critical UI/UX bugs in **C++/Qt**
- Developed hardware-software communication functionality using USB device interface serial communications

GeoThings *Dec 2015 - Aug 2016*
Software Developer. *Part-time* *Hsinchu, Taiwan*

- Designed UI/UX for an **iOS/Swift** mobile mapping tool by writing RESTful callbacks for fetching, processing, and displaying map information from OpenStreetMap
- Implemented a map tagging feature that uploads user-contributed data to the OpenStreetMap project database using RESTful

Coding Projects

MagRSS *2020*
Personal Software Project

- Created a Machine Learning Project with the goal of identifying what road lane a user is located
- Wrote an **Kotlin/Android** application that continuously captures LTE Base Station Access Points signal intensities, magnetometer, and GPS coordinates, allowing the categorization of signal fingerprints as 'road lane' labels used for training
- Implemented data filtering subroutines in **python/pandas/numpy** used for cleaning and preprocessing noisy signals
- Collected training data using the MagRSS application by going around campus and labeling certain routes depending on where the logs were taken. 120k entries total for demonstrating the proof-of-concept
- Developed a Back Propagation Neural Network in **python/tensorflow** that is trained on the collected data and makes predictions on test data. Achieved close to 90% accuracy

ROS Drone Controller *2018*
Masters Research Project

- Installed a Robot Operating System (ROS) service instance on a drone controlled by a Raspberry Pi
- Developed an **Kotlin/Android** application that brings the user a Joystick UI and sends flight instructions to the ROS controlled drone
- Setup a TCP socket connection between an Android application and the ROS controlled drone, both of which were connected to a special LTE testbed network provided by school for experimental purposes

Position Sensor *2018*
Masters Research Project

- Developed a **Java/Android** application that uses the built-in accelerometer and gyroscope and implemented an Inertial Navigation Unit (INU)
- Enhanced INU signals by applying a Kalman-Filter that constantly adjusts on feedback from the sensors
- Displayed the path the user has taken so far on-screen

Anti ROB *2016*
IoT Coding Competition

- Created an IoT connected Robot car with an attached USB webcam and fake/toy gun used for security surveillance
- Integrated a motion-detection library/process with the webcam video feed to trigger an email notification to subscribed users
- Developed both **Java/Android** and **Swift/iOS** applications that display the video feed from the IoT connected Robot and provides UI joystick controllers to move the Robot and trigger the toy gun

Helium Drone *2015*
Summer Engineering Workshop

- Prototyped a Helium Drone connected and controlled by an Arduino. Team members consisted of 3 other University classmates
- Setup Hardware/IO wiring between the Arduino IO pins and the motors that power the Drone propellers
- Wrote **C/Arduino** application that controls the Drone propeller motor revolutions and spin direction

Research Publications & Academic Awards

IEEE International Conference on Communications (ICC) *May 2018*
Second Author. Conference Presenter *Kansas City, MO, USA*

- *"V2PSense: Enabling Cellular-Based V2P Collision Warning Service through Mobile Sensing,"* C. Li, **G. Salinas,** P. Huang, G. Tu, G. Hsu and T. Hsieh.

National Chiao Tung University Scholarship *Sep 2016*
Scholarship Recipient

- Outstanding new student award - Masters Program
- Scholarship awarded to Degree-seeking foreign students that consisted of tuition fee waiver and a monthly allowance to cover basic living expenses

Ministry of Foreign Affairs (MOFA) Taiwan Scholarship *Aug 2011*
Scholarship Recipient

- Selected as 1 out of 15 awardees at a National (Nicaragua) level by MOFA of the Government of Taiwan based on academic merit to undergo Mandarin Chinese Language studies at a Taiwanese Language Center, followed by Higher Education (Undergraduate) studies at a Taiwanese University
- Scholarship program consisted of monthly allowance for 5 years to cover tuition and living expenses

Technical Skills

Software Tools

- **C/C++**: Unix/POSIX OS system programming , **Python**: Data Sciences *(pandas, numpy, matplotlib, tensorflow)*, **Mobile App development**: XCode *(iOS - Swift)*, Android Studio *(Android - Java/Kotlin)*, **Version Control**: Git

Language

- **English**: Advanced *(TOEFL iBT score 104/120)*, **Mandarin Chinese**: Intermediate/Advanced *(TOCFL score 80/100)*, **German**: Basic/Intermediate *(TestDaf B1 certificate)*, **Spanish**: Native