

# DANY GHRAIZI

Energetic, honest and reliable engineer with 3 years of diverse experience ranging from researching and developing robust and innovative code for high-volume industrial floors to training programs and events organization. Demonstrated good business acumen and proficiency in multiple programming languages including Python. Offering a strong attention to detail, communication, adaptability and technical background.

## CONTACT INFORMATION

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- ☎ +961 76 842 682
- 📍 Beirut, Lebanon

## LANGUAGES

English, French, Arabic

## WORK EXPERIENCE

### Machine Learning Engineer in R&D

CETIM

#### March 2021 - August 2021 Paris, France

- Researched the state-the-art of deep learning based methods for diagnosis of industrial machines to detect mechanical faults at an early stage. Keywords: Signal Processing, LSTM, CNN, Transfer Learning
- Developed a reliable network in Keras Python utilizing Signal Processing and ConvNet that monitors machine health in real-time and effectively identifies the fault at an early stage with 3 days of predictive maintenance.
- Worked remotely as an End-of-studies Internship.

### Mechanical Engineer

CERN

#### Summer 2020 Geneva, Switzerland

- Successfully selected out of 4238 applications. Cancelled owing to the Coronavirus pandemic.
- Internship replaced with an online programme consisting of webinars and a hackathon.

### Mechanical Engineer

Suzuki - G.A. Bazerji & Sons S.A.L

#### Summer 2019 Beirut, Lebanon

- Inspected vehicle engine and mechanical/electrical components to diagnose issues accurately.
- Inspected vehicle computer and electronic systems to repair, maintain and upgrade.
- Conducted routine maintenance work aiming to vehicle functionality and longevity.

### Student Ambassador

National Instruments Corp.

#### September 2018 - April 2020 Beirut, Lebanon

- Delivered weekly training sessions on LabVIEW software for Engineering students following Core 1 & 2 curriculum.
- Prepared lessons, units and projects to complete learning objectives.
- Created, assigned and graded various assessments for students, including tests, quizzes, essays and projects.

### Trainer

Berytech

#### February 2018 Beirut, Lebanon

- Delivered an intensive 1 week training on LabVIEW software Curriculum (Core 1 & 2) to participants of the Agri-FoodTech Challenge.

### Assistant Organizer - NIDays Conference

National Instruments Corp.

#### Summer 2017 Beirut, Lebanon

- Directly contacted and handled attendees' applications for the NIDays Conference and training workshop.
- Managing the smooth operation, scheduling and distribution of participants in the training workshops.
- Providing full support to attendees through helping in the VISA processes, booking hotels and open ended calls.

### Counter Staff, Cashier and Waiter

Lebanese Beirut Airport Catering Company SAL

#### Summer 2016 Beirut International Airport

- Completed all sales transactions and maintain a proper cash and media accountabilities at POS registers.
- Maintained an awareness of all product information, merchandise promotions and advertisements.
- Adhered to all company policies, procedures and practices including signing, pricing, and loss prevention.

## TECHNICAL SKILLS

### Software, Tools and Technologies

C++, C, LabVIEW, SPSS, JavaScript, NodeJS, GitHub, Matlab, Simulink, Linux, Python, Keras, Pytorch, TensorFlow, Deep Learning, OpenCV, HTML, Solidworks, AutoCAD, ANSYS, AutoDeskFusion360, DesignBuilder, Additive Manufacturing, 3D Printing, Laser Cutting, Welding, CNC, Illustrator, Visual Studio, Photoshop, Excel, Visio, Word, PowerPoint, Outlook, Access

## EDUCATION

### Université de Technologie de Compiègne & Université Libanaise

Master 2 Research in Robotics, Control and AI

### Université Libanaise

- Diplôme d'Ingénieur (Master 1) in Mechanical Engineering (Construction and Energetics)
- Licence (Bachelor's) in Business Administration and Management
- Post Bac de Tronc Commun - General Engineering

# EDUCATIONAL PROJECTS

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## Optimization of PID Controller

Employed "Particle Swarm Optimization (PSO)", "Ant Colony Optimization (ACO)", and "Genetic Algorithm (GA)" on an interleaved buck-boost power electronic converter using Matlab / Simulink.

## UAV Passive Fault-Tolerant Control

Implemented a Robust Model Free Control on an Unmanned Aerial Vehicle (UAV) Quadrotor Drone using Matlab / Simulink.

## UAV Sliding Mode Control

Implemented a Sliding Control on an Unmanned Aerial Vehicle (UAV) Quadrotor Drone using Matlab / Simulink.

## UAV Back-Stepping Control

Implemented a Back-Stepping Control on an Unmanned Aerial Vehicle (UAV) Quadrotor Drone using Matlab / Simulink.

## Two Rotor Aerodynamical System Control

Modeled a high order nonlinear system MIMO system with significant cross-couplings and implemented PID and LQR Control using Matlab / Simulink.

## FEM Heat Transfer Simulation

Simulated a Finite Elements simulation of heat transfer in a microprocessor unit on Matlab.

## Design of Refrigeration Cycle

Implemented a Single Cold Room Single Compression Cycle. Selected the Compressor, Evaporator, Condenser, expansion valve and other related parts. Designed and analyzed the refrigeration cycle and efficiency, and Solkane was used for verification.

## Design of a Generator Canopy

Conducted an acoustic analysis and selected proper composite materials and designed the canopy according to a generator provided by Jubaili Bros

## Design of Pelton Turbine Station

Designed a complete Pelton Turbine Station to be used in a hydroelectric power plant. The design process consists of 4 parts: Pelton design, Pelton Wheel and Nozzle design, Electric Generator design, and Automatic Control.

## HVAC Energy Analysis of Building

Calculated the cooling and heating loads, related duct network and hydronic piping using DesignBuilder.

## Design of Motor Driven Vertical Lift Elevator

Designed the gearbox and its components, the motor and overall system components.

## Automatic Access Control System

Design of Automatic Swinging Barrier Gate using SolidWorks and controlled by Arduino Mega 2560 with C/C++.

## Chess/Maze Robot

Developed a Bluetooth controlled/Autonomous Robot to play chess/Anonymous maze solving controlled using myRio and programmed on LabVIEW. (Sponsored by National Instruments)

## Sumo Robot

Developed an Arduino Uno based Autonomous robot to compete in the Sumo Robot competition.

# CERTIFICATES

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## CERN Summer Student Programme

CERN  
2020

## LabVIEW Associate Developer CLAD

National Instruments Corp.  
2017 - 2019

## Cryptography Sessions & Cybersecurity Workshops

Cyber Community  
2017

## Bussiness Incubation Stage

UNICEF & The Nawaya Network  
2018

## Office Word and PowerPoint Specialist

Microsoft  
2018

# EXTRA-CURRICULAR

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## Active IEEE Member for 5 years

Previously Treasurer. ULFG3 Student Branch  
2016 - 2021

## Hult Prize Finals and The Changemaker Festival

Organizing Volunteer  
2018

## Robotics Competitions