



Jonadri Bundo

Date of birth: 14/03/1995 | **Nationality:** Albanian | **Gender:** Male |

Phone number: (+355) 693702416 (Mobile) | **Email address:**

jonadribundo@gmail.com | **LinkedIn:**

<https://al.linkedin.com/in/jonadri-bundo-00862bb2> |

WhatsApp Messenger: +355693702416

● ABOUT ME

A Mechatronics Engineer, with high conceptual and analytical thinking in problem solutions. As an ambitious and hard-working individual, I am often recognized for my commitment and abilities that have contributed on developing new innovative products and tools in the HVAC/r industry. Following a PhD program at Polytechnic University of Tirana

● WORK EXPERIENCE

12/2020 – CURRENT

LECTURER IN ELECTRICAL ENGINEERING POLYTECHNIC UNIVERSITY OF TIRANA

Subjects:

- Control System Theory
- PLC Programming
- Industrial Networks
- Model Identification and Data Analysis

05/2017 – 02/2024 Tirana, Albania

MECHATRONICS ENGINEER SIC SISTEMI S.R.L

Main responsibilities:

- Design and implementation of software for commercial and internal purposes (technical software for HVAC/R calculation, machine components, software for generating mathematical model based on experimental data, data fitting software, refrigerant circuit calculation software, HVAC machine simulator etc.)
- Design and development of PLC programs and control solutions, HMI and SCADA
- Design electrical schemas for HVAC/R machines

Technology stack and trainings:

- PLC programming
- 1tool, C.Suite (Certified from Carel Industries S.P.A)
- TIA (Siemens)
- DraftSight 2D / AutoCAD / AutoCAD Electrical
- Python
- C#
- Visual Basic
- C
- AirCalc
- PyCharm IDE / Visual Studio / Spyder / Atollic / True Studio / STM32CubeMX / STM32CubeIDE
- Structured Text programming language
- FBD (Functional Block Diagram) programming language
- Matlab (Control System Toolbox, Simulink, System Identification, Model Predictive Control)
- Modbus RTU/TCP
- CANBus/CANOpen

Business or Sector Electricity, gas, steam and air conditioning supply

03/2023 – 08/2023 Durres, Albania

MECHATRONICS ENGINEER BERDICA CEMENT

Supervisor engineer for installation and testing of Kovako machine for bulk cement unloading.

10/2019 – 11/2020

ASSISTANT LECTURER POLYTECHNIC UNIVERSITY OF TIRANA

PLC programming subject:

- preparation of exercises
- preparation of course projects

● **EDUCATION AND TRAINING**

09/2010 – 06/2013 Berat, Albania

PRE - UNIVERSITY EDUCATION Babë Dudë Karbunara High School

10/2013 – 07/2016 Tirane, Albania

BACHELOR OF ENGINEERING, MECHATRONICS ENGINEERING (GPA = 9.49) Polytechnic University of Tirana

11/2016 – 09/2018 Tirane, Albania

MASTER OF SCIENCE, INDUSTRIAL AUTOMATION ENGINEERING (GPA = 8.35) Polytechnic University of Tirana

12/09/2017 – 15/09/2017 Padova, Italy

CERTIFICATE IN PLC PROGRAMMING C.SUITE PLATFORM Carel Industries S.P.A

Training on platform C.suite which consists on "distributed" design of control solutions. The old platform (1tool) used to implement GUI, logic, BMS and IO configuration on the same ambient, in confront with C.suite platform which design all these elements, in separated programs, thus giving the design process more flexibility.

This training included:

- Presentation of programming / Configuration ambient (C.strategy / C.design)
- Presentation of GUI design (C.maks)
- Presentation of Upload process (C.factory)
- Examples work flow with "hands on" practices

09/2022 – CURRENT Tirana, Albania

PHD Polytechnic University of Tirana

● **LANGUAGE SKILLS**

Mother tongue(s): **ALBANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ITALIAN	C1	C1	C1	B2	B2
ENGLISH	C1	C1	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● **ADDITIONAL INFORMATION**

PUBLICATIONS

[A Study on Vaccination Concerns in Albania Analyzed by Machine Learning Classifiers](#) – 2020

Mathematical model for calculating the equilibrium point of the refrigerant circuit – 2020

Calculating the equilibrium point of the refrigerant circuit is one of the most important processes in the air treatment industry. Knowing the evaporation and condensation temperatures serves not only to obtain information on the performance and operating point of the compressor, but also to evaluate the performance of the machine under different climatic conditions. Often, the solution of the refrigerant circuit is accomplished by empirical methods or numerical methods such as the Newton – Raphson method or the medium method. Since the iteration time with these methods is unknown at the time of the iteration start, it is very important to implement algorithms that provide convergence information or not, and which can bring the system to a solution in the shortest possible time. The implementation of such a method would pave the way for simulating the behaviour of machines in the air treatment industry as an advanced verification process for real evaluation of machine performance. In this article, experimental results and mathematical model calculations will be presented and discussed.

An Integrated Low-Cost Solution for Greenhouse Monitoring – 2021

Greenhouses are among the most common solutions to maintain a favourable climate for production and plant growth. They increase production quality and quantity while extending the farming season. This paper presents a low-cost monitoring device that helps farmers to monitor greenhouse climate conditions. The device exploits recent technology development in IOT (Internet of Things) and has a twofold application. On the one hand it can be used to analyse the greenhouse production and relate it with climate conditions and on the other hand its measurements can be used to control the greenhouse and promptly act to temperature changes. The proposed device integrates a temperature and humidity sensor and exploits the cellular network to send data to a server. A dedicated mobile app has been designed with the purpose to collect and opportunely present data. In this paper the importance of greenhouse monitoring and control is discussed. Following, the design of a low-cost monitoring device is shown, and its capabilities are proven by experimental data.

Speed control of three phase induction motor using Field Oriented Control technique – 2023

Write here the desInduction motors are very common in industrial applications like pumps, blowers, compressors, fans, air-conditioning systems and others. The main reason for this popularity in the industry is because they are very simple, require minimum maintenance and manufacturing costs are low. This paper is aimed to give a contribution in speed control of a 250 W three phase induction motor in an application which requires a high performance of electric drive. The Field Oriented Control (FOC) technique is implemented in order to have the required performance. This algorithm has some advantages compared to scalar control such as improved dynamics, full torque control from zero to nominal speed, decoupled control of flux and torque, higher efficiency and others. This study is done in the Simulink/MATLAB environment where the model of speed control of 250 W three phase induction motor is created. Firstly, the fifth order model of the motor is built in a stationary frame. Secondly, the Field Oriented Control technique is implemented when are found also PI regulators coefficients. In the end, Space Vector Pulse Width Modulation (SVPWM) technique was built. This is the final step of FOC to determine the pulse width modulation signal for the inverter switches in order to generate the desired three phase voltage to the motor. Numerical simulations which are presented graphically at the end of this paper shows the advantages of using FOC.cription...

Dhamo, D., & Panxhi, D. & Spahiu, A. & Bundo, J. (2023). Advanced Engineering Days, 6, 183- 186

A personalized low cost solution for supervision and control of HVAC/r systems via Modbus protocol

– 2023

Write here the descriptiThe demand for remote monitoring and control of HVAC/r systems has developed in lockstep with technological improvements, which have created new opportunities while also posing new obstacles. Solving these problems can generally be accomplished through a variety of techniques, each with its own set of costs. Only some segments of the market would be able to invest in remote monitoring and control systems, as well as research and development based on monitored data, under these conditions. This paper describes a low-cost software design that integrates the Modbus protocol with the most significant HVAC/r system characteristics. on...

MSc. Jonadri Bundo, Prof. Asoc. Genci Sharko, MSc. Denis Panxhi and MSc. Darjon Dhamo

DRIVING LICENCE

Driving Licence: B

CONFERENCES AND SEMINARS

08/07/2020 – 08/07/2020

International Conference on Advanced Mechanical and Industrial Engineering 2020 (ICAMIE 2020)

JOB-RELATED SKILLS

Job-related skills

Strong problem solving skills:

- Implemented network solutions
- Data acquisition solutions
- Control systems solutions
- Machine Modelling
- VRF systems
- Designed and implemented solutions for calculating refrigerant circuit equilibrium in complex HVAC/R systems
- Machine Learning and Data Science
- Programming languages C, Visual Basic, C#, Python

COURSES

Courses

Have been continuously taking courses on Machine Learning and Data Analysis on topics listed below:

1. Deep Learning using TensorFlow and Keras
2. Reinforcement Learning (Upper Confidence Bound, Thomson Sampling)
3. Convolutional Neural Networks
4. Unsupervised Learning (Hierarchical Clustering, K-Means Clustering)
5. Supervised Learning (Simple Linear Regression, Multiple Linear Regression, Polynomial Regression, Support Vector Regression, Decision Tree Regression, Random Forest Regression)
6. Classification (Logistic Regression, K-Nearest Neighbors, Support Vector Machine, Naive Bayes, Decision Tree Classification, Random Forest Classification, Extremely Randomized Trees, Extreme Gradient Boosting)

01/10/2019 – 17/11/2019

Udemy Machine Learning A-Z

CONTRIBUTIONS

05/2014 – 06/2015

Co-Founder Things Lab Tirana

Things Lab (active since May 2014) is a young technological lab founded in Tirana with the help of technology enthusiasts and computer, software and engineering students. This initiative started with the main goal of creating a place where everyone interested in electronics, programming, design and other fields can have the opportunity to LEARN, MAKE and SHARE Things.

Main events during mentioned period of time were:

- Workshops on microcontrollers programming, sensors and actuators
- Fixing and assembling a 3D printer

Link https://www.facebook.com/ThingsLabTirana/?ref=page_internal

01/2020 – 03/2020

Medical Doctor Specialisation Thesis, University of Medicine, Tirana

- Data Analysis and Machine Learning algorithm training for thesis - "A study on principal factors that influence on burn out syndrom on physicians in Albania"
 - Data Analysis and Machine Learning algorithm training for thesis - "A study on age prediction of manifestation of Mallitus diabetes on patients who tend to develop this diagnosis"
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