PERSONAL INFORMATION   Oana Andreea RUȘANU
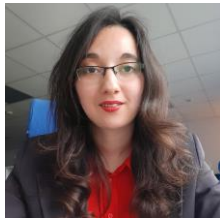
✉ oana.rusanu@unitbv.ro

Gender Female | Nationality Romanian

Web Pages https://sciprofiles.com/profile/831557 and https://www.researchgate.net/profile/Oana-Rusanu
https://www.linkedin.com/in/oana-andreea-ru%C8%99anu-20a10044/

WORK EXPERIENCE

October 2018 - Present

Junior Instructor (Cadru Didactic Asociat)

Transilvania University of Brasov – Faculty of Product Design and Environment

Teaching laboratory classes in the following subjects:

- Medical Informatics;
- Artificial Intelligence;
- Microcontrollers & Microprocessors.

September 2017 - Present

Software Test Engineer – Middle Level

Preh Brasov, Romania

- Execution of manual and automated test cases based on software requirements;
- Review on software requirements and test-cases specifications;
- Creation and implementation of test-cases;
- Development of automated scripts aimed for software testing activities;
- Development of LabVIEW based applications for software testing tasks;
- Delivering training sessions to new colleagues;
- Creation of documentation for new software testing strategies;
- Involvement rated to 50% on team projects and 50% on individual projects;
- General knowledge regarding working with different software testing tools such as: Vector CANoe - based on CAN and LIN communication protocols, Eclipse - TTCN-3, IBM Doors, Surround SCM, TestTrack, Ford - Diagnostic Engineering Tool, Diagnostic Script Setup, Diagnostic Script Player, BMW - E-Sys, Ediabas, Diagnoser and flashing instrument.

Business or sector: Automotive – Software Validation/Testing

June 2016 – August 2017

Master Student Job (Administrative Support Engineering)

Autoliv Brasov, Romania

- Gaining experience in LabVIEW graphical programming environment by accepting the proposed challenges regarding both the development of three major software projects and some improvements brought to another project related to passive safety systems;
- Writing the user instructions for the testing systems based on the LabVIEW software applications
- Involvement rated to approximately 100% on individual projects;
- Independent working on all software stages of development the testing solutions;
- Delivering training sessions to the technical staff;
- Creation of documentation for the newly developed LabVIEW applications;

Business or sector: Automotive – Engineering and Development

EDUCATION AND TRAINING

2017 – Present

Transilvania University of Brasov, Romania – PhD Student

Title of Doctoral Thesis: *Research on the Use of Brain-Computer Interfaces in Extending the Functionality of Bio-mechatronic Systems*
Field of Doctoral Studies: Mechanical Engineering
Department: Product Design, Mechatronics and Environment

2015 – 2017

Transilvania University of Brasov, Romania – Master's Degree

Programme of Study: Mechatronic systems for industry and medicine, Dissertation Exam passed with the highest grade: 10.00
Faculty of Product Design and Environment, Graduation average: 10.00
Field of study: Mechatronics and Robotics

2015 – 2016 Transilvania University of Brasov, Romania – Pedagogical Second Module

Psycho-pedagogical Training Programme – The second module organized by the Department for Teaching Staff Training, Final Exam passed with the highest grade: 10.00

2012 – 2015 Transilvania University of Brasov, Romania – Pedagogical First Module

Psycho-pedagogical Training Programme - The first module organized by the Department for Teaching Staff Training, Final Exam passed with the highest grade: 10.00

2011 - 2015 Transilvania University of Brasov, Romania – Bachelor's Degree

Programme of study: Medical Engineering, Bachelor Exam passed with the highest grade: 10.00
Faculty of Product Design and Environment, *Valedictorian* with the graduation average: 9.84 / 10.00
Field of study: Applied Engineering Sciences

2007 - 2011 National College *Andrei Saguna* of Brasov, Science of Nature Intensive English class

Graduation average: 9.65 / 10.00
Romanian Baccalaureate Average (subjects: romanian language, mathematics, physics): 9.51.

1999 - 2007 Gymnasium School No. 27 "Anatol Ghermanschi" of Brasov

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
English				
B2	B2	B2	B2	B2
Certificate of English language competence (organized to the National College „Andrei Saguna" of Brasov, May 2011)				
German				
B1	B1	A2	A2	B1
Certificate of German language competence – The Intermediate Level (B1/2) (organized by the Link - Language School of Brasov, October 2018 – July 2020) Certificate of German language competence – The First Module (organized by the Magnus School of Brasov, June 2017)				

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Communication skills ▪ Good communication and interaction skills proved by taking part to *Scientific Conferences (NI Days 2016, ACME 2018, PRASIC 2018, EHB 2019, ACME 2020, EHB 2020, ICISIL 2021)* and *Student Scientific Communication Sessions* (Editions held on 2013, 2014, 2015, 2016, 2017), Contest and Exhibition of Final Projects in Front of Employers (Editions held on 2015, 2016, 2017, 2018, 2019, 2021) and by presenting different university projects and preparing for school activities (in 2008 I was selected to the National Olympiad of the Romanian Language, organized in Botosani).

Organisational / managerial skills ▪ 2012 – 2015: Representative Student of undergraduates in *Medical Engineering* Bachelor Degree
▪ 2015 – 2017: Representative Student of undergraduates in *Mechatronic Systems for Industry and Medicine* Master Degree. This role is associated with the following abilities:
▫ Organizational and problem-solving skills;
▫ Teamwork skills;
▫ Decision making skills;
▫ Willing to work hard in order to finish successfully a task;
▫ Taking the responsibilities for my own actions;
▫ Receptiveness to suggestions and advice from my colleagues;
▫ Conscientiousness in fulfilling a given task.

Digital competence	SELF-ASSESSMENT				
	Information processing	Communication	Content creation	Safety	Problem solving
	Independent	Independent	Independent	Independent	Independent

Levels: Basic user - Independent user - Proficient user
Digital competences - Self-assessment grid

Certificate No. 18-CTFL-1442-SEETB - ISTQB Certified Tester, Foundation Level
Contents (Syllabus version – 2011)
Date: 13.11.2018
Fundamentals of Testing
Testing design techniques
Testing throughout the software life cycle
Test Management
Static techniques
Tools support for Testing

National Instruments Certified LabVIEW Associate Developer
Serial Number: 100-316-16867;
Issue Date: 22.12.2016; Expiration Date: 21.12.2018
This certificate proves a basic knowledge and general experience regarding the development of software applications using LabVIEW graphical programming environment.

European Computer Driving Licence Core
Date: 14.03.2011
Serial number: RO 065413
This certificate proves the following digital competences and abilities of using a computer:
Module 1: Basic Concepts of Information Technology
Module 2: Using the Computer and Managing Files
Module 3: Word Processing
Module 4: Spreadsheets
Module 5: Database
Module 6: Presentations
Module 7: Information and Communication

Digital competence

Advanced software knowledge: LabVIEW
General software knowledge: AutoCAD, CATIA, Solidworks, Matlab, Mathcad, Python;
Basic programming knowledge: C/C++ language.
21st February – 27th June 2018: attending the Cisco Course *IT Essentials PC Hardware and Software,* organized by TechAdviser Academy from Brasov

Areas of interest

Brain-Computer Interface, artificial Intelligence, high technology, smart devices, computer aided design, physics, optics, holography, augmented reality, psychopedagogy, psychology, philosophy, personal development, emotional intelligence, literature, science fiction, religion – Orthodox Christian.

Hobby

Development of LabVIEW based interactive simulations with a friendly user-interface
Artistic drawing (different portraits and Bible Images of Saints)
Reading (favourite domains: personal development, science and technology, religion, philosophy)
Watching motivational and inspirational movies
Cycling, roller skating, ice skating, riding by electric scooter, travelling.

ADDITIONAL INFORMATION

Awards

The Special Prize offered by Preh Romania to the "Student Projects in Mechatronics National Contest", organized in May 2017 as a section of "Mechatronics Education Days" annual Event
The Special Prize offered by National Institute for Mechatronics and Measurement Technique from Bucharest, Romania to the "Student Scientific Communications National Session", organized in May 2017 as a section of "Mechatronics Education Days" annual Event
The Second Prize to the "Student Scientific Communications National Session", organized in May 2017 as a section of "Mechatronics Education Days" annual Event
The Big Prize to the "Graduates in front of companies" Conference, organized in May 2017 by Transilvania University of Brasov, Romania

The First Prize to the "Graduates in front of companies" Conference, "Medical Engineering, Medicine, Physical Education and Mountain Sports" Section, organized in May 2017 by Transilvania University of Brasov, Romania

The First Prize to the "Student Scientific Communications Session", Mechatronics Section, organized in April 2017 by Product Design and Environment Faculty, Transilvania University of Brasov

The Second Prize to the "Student Scientific Communications Session", Mechatronics Section, organized in April 2016 by Product Design and Environment Faculty, Transilvania University of Brasov

The "Virgil Olariu" Excellence Prize to the "Student Scientific Communications Session", Medical Engineering Section, organized in May 2016 by Product Design and Environment Faculty

The First Prize to the "Graduates in front of companies" Conference, "Medical Engineering, Medicine, Physical Education and Mountain Sports" Section, organized in May 2015 by Transilvania University of Brasov, Romania

The "Virgil Olariu" Excellence Prize to the "Student Scientific Communications Session", Medical Engineering Section, organized in April 2015 by Product Design and Environment Faculty

The First Prize to the "Student Scientific Communications Session", Medical Engineering Section, organized in April 2014 by Product Design and Environment Faculty

The Third Prize to the "Student Scientific Communications Session", Optometry Section, organized in May 2013 by Product Design and Environment Faculty

Projects

PhD related Project – 2021: "LabVIEW application aimed for designing a brain-computer interface composed of a mobile robot and a robotic arm, both based on NI myRIO system and controlled by the voluntary eye-blinks detected across the electroencephalographic signal acquired from NeuroSky"

PhD related Project – 2020: "Python applications with graphical user-interface for the implementation of Brain-Computer Interface systems enabling the EEG data acquisition from both Neurosky and Emotiv Insight headsets, allowing processing and classification of voluntary eye-blinks and the transmission of commands to the Raspberry Pi board by using Websockets protocol"

PhD related Project – 2019: "LabVIEW instrument aimed for the acquisition, processing and classification of electroencephalographic signals used in the implementation of a Brain-Computer Interface system"

PhD related Project – 2018: "Virtual Keyboard controlled by Eye-Blinks Strength using NeuroSky Headset"

Master Thesis - 2017: "A LabVIEW based application for a Brain-Computer Interface using the NI myRIO system and the NeuroSky Mindwave Headset"

NI Days 2016 Project: "3D Interactive Models developed in LabVIEW"

Bachelor Project - 2015: "Design and Implementing some LabVIEW based virtual instruments of a Brain-Computer Interface for interactive simulations in Medical Engineering"

Activities

Student Scientific Communications Session 2016 - Medical Engineering Project: "The assistance of people with disabilities by gestures controlled 3D robot arm developed in LabVIEW"

Student Scientific Communications Session 2016 – Mechatronics Project: "The interfacing between Arduino Platform and LabVIEW graphical programming environment"

Student Scientific Communications Session 2013 – Optometry Project: "Holography – a modern perspective of optics regarding the various applications"

Teaching – Laboratory: "Medical Informatics" (software applications in Microsoft Access)**, "Artificial Intelligence"** (software applications in Matlab) and **"Microcontrollers and Microprocessors", under coordination of Prof. Dr. Eng. Marius Cristian LUCULESCU,** during first semester of 2018/2019, 2019/2020 and 2020/2021 university years

Presenting a personal PhD project to the "Graduates in front of Companies" Conference – Doctorate Section – 2021 Edition

Presenting a personal PhD project to the "Graduates in front of Companies" Conference – Doctorate Section – 2019 Edition

Presenting a personal PhD project to the "Graduates in front of Companies" Conference – Doctorate Section – 2018 Edition

Exhibitor in the European Researchers' Night 2017, event that took place at the *National College Andrei Şaguna* from Brasov

Presenter in the National Instruments Days 2016, annual event organized in Bucharest, Romania

Presenting my project to the "Graduates in front of Companies" Conference – 2016 Edition

Interregional Seminar – POSDRU 160/2.1/S/133020 – organized in June 2015 to the Transilvania University of Brasov Romania – presenting the theme: „Growing the capacity to integrate students and graduates in the working field by counselling and practical placements"

Television Presentation to the "Today in Brasov", broadcasted in May 2017 on the local TV channel "RTT". The Vice-Rector of Transilvania University of Brasov invited me to offer more information about my successful project, awarded with" The Big Prize" to the" Graduates in front of Companies" Conference – 2017 Edition

Short Interview to the "Student Show", broadcasted in May 2016 on the local TV channel "Nova TV". I presented a brief description of my project prepared for "Graduates in front of Companies" Conference – 2016 Edition.

Short Television Interview to the "Student Show", broadcasted in May 2014 on the local TV channel "Nova TV". The discussed theme was related to a description about Product Design and Environment Faculty from University Transilvania of Brasov, Romania.

Paper published in the "Annual volume of student scientific research" – edited in 2014 by Transilvania University of Brasov, Romania

Scientific Articles

First-author to the paper entitled *The development of a BCI prototype based on the integration between NeuroSky Mindwave Mobile EEG Headset, Matlab software environment and Arduino Nano 33 IoT board for controlling the movement of an experiment motorcycle,* accepted for ISI indexing and publishing and online presented to the *11th International Conference on Information Science and Information Literacy – ICISIL 2021, 12 – 13th March 2021, Brașov, România*

First-author to the paper entitled *LabVIEW and Android BCI Chat App Controlled By Voluntary Eye-Blinks Using NeuroSky Mindwave Mobile EEG Headset,* accepted for ISI indexing and publishing and online presented to the *IEEE E-Health and Bioengineering Conference – EHB 2020, 29 – 30th October 2020, Iași, România*

First-author to the paper entitled *Arduino based Mobile Robot controlled by Voluntary Eye-Blinks using LabVIEW GUI & NeuroSky Mindwave Mobile Headset,* accepted for ISI indexing and publishing and online presented to the *International Conference on Advanced Concepts in Mechanical Engineering* (ACME 2018)*, 4-5th June 2020, Iași, România*

First-author to the paper entitled *Experimental Model of a Robotic Hand Controlled by Using NeuroSky Mindwave Mobile Headset,* ISI indexed and published to the *IEEE E-Health and Bioengineering Conference – EHB 2019, 21-23rd 'November 2019, Iași, România*

First-author to the paper entitled *Simulation of a BCI System Based on the Control of a Robotic Hand by Using Eye-blinks Strength,* ISI indexed and published to the *IEEE E-health and Bioengineering Conference – EHB 2019, 21-23rd 'November 2019, Iași, România*

First-author to the paper entitled *Virtual keyboard based on a brain-computer interface,* ISI indexed and published in the IOP Conference Series: *Materials Science and Engineering* Volume 514, Proceedings of *Product Design, Robotics, Advanced Mechanical and Mechatronic Systems and Innovation Conference* (PRASIC 2018)*, 8-9th November 2018, Brasov, Romania*

First-author to the paper entitled *Virtual robot arm controlled by hand gestures via Leap Motion Sensor,* ISI indexed and published in the IOP Conference Series: Materials Science and Engineering Volume 514, Proceedings of *Product Design, Robotics, Advanced Mechanical and Mechatronic Systems and Innovation Conference* (PRASIC 2018)*, 8-9th November 2018, Brasov, Romania*

First-author to the paper entitled *A brain-computer interface based on the integration of NI myRIO development device and NeuroSky Mindwave headset,* ISI indexed and published in the IOP Conference Series: *Materials Science and Engineering* Volume 444, Proceedings of *8th International Conference on Advanced Concepts in Mechanical Engineering* (ACME 2018)*, 7-8th June 2018, Iași, România*

Co-author to the paper entitled *Energy and Mechatronics Applications based on NI myRIO,* published in the BDI indexed Journal related to *International Conference on Control Engineering and Mechanical Design* (CEMD 2017), China

YouTube Unlisted Links
Video Demonstrations
Own Original Applications

LabVIEW Apps aimed for the Acquisition, Processing and Classification of EEG Signals in a BCI System - https://www.youtube.com/watch?v=bmr04-QKJOg

Real-Time LabVIEW App for the acquisition, feature extraction and classification of Raw EEG in a BCI - https://youtu.be/NkzBY3Ftt5I

LabVIEW & NI myRIO based BCI for controlling a Robotic Arm by Voluntary Eye-Blinks from NeuroSky - https://youtu.be/IlljaHYQUqw

Matlab & Arduino based BCI for Controlling a Motorcycle By Voluntary Eye-Blinks from NeuroSky Sensor - https://youtu.be/dS_MLjAUy2Q

Arduino based Mobile Robot controlled by Eye Blinks after applying Fuzzy Logic to Raw EEG in LabVIEW - https://youtu.be/Mh9ibydqd5w

LabVIEW and Android based Chat Application by using Voluntary Eye Blinks Detected from the NeuroSky - https://youtu.be/wHYKHfo3k04

Android Application developed in MIT App Inventor to simulate digit counting displayed by 7 Segments - https://youtu.be/2dCd86nJc60

Arduino & LabVIEW based Robotic Hand Controlled By Eye-Blinks Detected from the NeuroSky Biosensor - https://youtu.be/ZKiqJn26RDw

A LabVIEW based 3D virtual robotic arm designed in LabVIEW and controlled by using the smartphone - https://youtu.be/bKRdb5Eyf7M

A LabVIEW-based 3D robotic arm designed in LabVIEW and controlled by the Arduino accelerometer - https://youtu.be/kYyVxDdEUZk

A LabVIEW-based 3D robotic arm designed in LabVIEW and controlled by gestured captured by Webcam - https://youtu.be/EkExmLlf_qk

Enhanced LabVIEW Instrument - A virtual 3D robotic arm designed and manually controlled in LabVIEW - https://youtu.be/PlZCCXgSIyg

LabVIEW Instrument - A virtual 3D robotic arm designed and manually controlled in LabVIEW - https://youtu.be/ws8VWvek1KA

LabVIEW Simulation - A 3D virtual robotic hand designed and controlled in LabVIEW - https://youtu.be/1Dyb88vlpwA

CAD Model - A 3D robotic hand designed and controlled in CATIA - https://youtu.be/ZeBFnQr5MlA

Simulation of a BCI system based on the control of a 3D robotic hand by using eye-blink strength - https://youtu.be/b5CM-8obahU

LabVIEW Simulation of a Brain-Computer Interface - https://youtu.be/rolPofa9SWg

LabVIEW Apps - Brain Computer Interface; Graphical Text Display; Medical Electronic Prescriptions - https://youtu.be/qoZcTKLb2Ys

LabVIEW Virtual Instrument - Smart Display & Chronometer - 2x16 Characters (Led Matrices) - https://youtu.be/QtmVEnSPlYs

LabVIEW Virtual Instrument - Smart Display & Text Messages - 2x16 Characters (Led Matrices) - https://youtu.be/dw7K9r1yhnw

LabVIEW Graphical User Interface & Arduino LED Matrix with Max7219 Driver - Animated Graphic Effects - https://youtu.be/spVPJmk5irM

Arduino & MIT App Inventor Apps - Animated Graphic Effects displayed on 8x8 Led Matrix with Max7219 - https://youtu.be/g5U4qnM-wTw

Practical placement

September 2014 – Saint Constantin Hospital of Brasov, Romania

August 2014 & July 2013 – County centre of Medical equipment of Brasov, Romania

July 2014 – Oncological Diagnostic and Treatment Centre of Brasov, Romania

ANNEXES