

**Sesiunea Internationala de Comunicari Stiintifice Studentesti,
editia a XXIII-a, a Facultatii de Inginerie, UAV
Sala rosie, Corp M etaj I, Ora 9:00**

Program

Ora 9:00 – 9:15 Deschiderea festiva a conferintei

Ora 9:15- 9:45 Conferinta Plenara:

Prof.dr.ing. Valeriu BEIU, Facultatea de Stiinte Exacte, UAV – “Perspectivele dezvoltarii industriei de semiconductori”

9:45 – 10:15 Conferinte invitate:

Domnica Dzitac, New York University Abu Dhabi - *An Ensemble Machine Learning Approach to Understanding the Effect of a Global Pandemic on Twitter Users' Attitudes*

Pavle Vulcanovic, New York University Abu Dhabi - *Investigating the invisible Universe using computer simulations*

10:15-10:30 Prezentarea Companiei:

NC VISION GmbH - Florentin Szomoru, Head of Software Development

10:30 – 13:30 Prezentarea lucrarilor

Sectiuni paralele: profil electric, profil mecanic

Sectiunea Electro

Nr. Crt.	Autori	Anul de studii / spec.	Titlul lucrării	Abstract	Coordonator
1	Bondar Răzvan	Universitatea din Oradea, Facultatea de Inginerie Energetică și Management Industrial, Centrul de creație științifică și inovare al studenților energeticieni orădeni	Studiu de caz privind alimentarea unui consumator		S.l. dr. ing. Meianu Dragoș, Conf. dr. ing. Dzițac Simona
2	Dume Antonia	Universitatea din Oradea, Facultatea de Inginerie Energetică și Management Industrial, Centrul de creație științifică și inovare al studenților energeticieni orădeni & Asociația Clusterul de Cercetări Științifice, Inovare și Studii Europene din Oradea	Statistică matematică în inginerie energetică. Studiu de caz		Conf. dr. ing. Dzițac Simona
3	Cheregi Adrian	Universitatea din Oradea – Facultatea de Inginerie Electrică și Tehnologia Informației	Virtualizare sisteme de operare utilizand RPi 4		Conf. dr. ing. Dzițac Simona

		& Asociația Clusterul de Cercetări Științifice, Inovare și Studii Europene din Oradea			
4	Vereș Ralph, Feier Bianca	Universitatea din Oradea & Asociația Clusterul de Cercetări Științifice, Inovare și Studii Europene din Oradea	Medical Applications for Nonconventional Technologies		Conf. dr. ing. Dzițac Simona, Conf. dr. ing. Buidos Traian
5	Vrabie Ana, Tăușan Andrei, Goncear Radu	Afilieră: Universitatea din Oradea – Facultatea de Inginerie Electrică și Tehnologia Informației & Asociația Clusterul de Cercetări Științifice, Inovare și Studii Europene din Oradea	Studiu de caz privind stocarea energiei electrice		Conf. dr. ing. Dzițac Simona
6	Coroban Sorina Mudreac Flavius Butnaru Petrica	I ASI I AIA Clasa a XII-a seral Technological Highschool in Electronics and Automatics “Caius Iacob” Arad, Electrical Domain	Smart Elevator	Smart elevator is a prototype for a vocal controlled lift. This project comes in handy for the people with visual deficiency, it is more efficient due to its ability to be controlled through a phone application. The application makes the elevator movement possible just by saying the floor that wants to be reached, this way the button pressing is excluded. The communication between the elevator and the phone is made via Bluetooth module. The components used for this project are controlled with algorithms implemented through Arduino UNO board.	S.I.dr.ing. Corina Mnerie

				With this prototype we hope to encourage the construction of buildings in order to help the lives of people suffering from disabilities.	
7	Popa Ovidiu, Nicoara Emanuel, Szentgyorgyi Adrian, Urban Casian	An III AIA	Brat robotic	The paper presents the model of a robotic arm having as visible component elements, such as the base, the main arm, the secondary arm, a set of pliers, which perform distinct movements and specific to the role play as a whole. The movements are generated by means of actuators placed near each component part of the arm. Each servomotor is controlled via an Arduino board. The cumulated and synchronized movements confer high degrees of freedom to the created ensemble.	S.I.dr.ing. Adriana Micsa
8	Durbaca Daniel , Hanes Daniel, Bumbu Eduard	An III AIA	Window roller shutter automation		Prof.univ.dr.habil.ing. Valentina Balas
9	Adina Maria Ciule, Ancuta-Sena Jivan	An III AIA	Sistem expert pentru diagnoza auto		Prof.univ.dr.habil.ing. Valentina Balas
10	Ardelean Ionut	An IV AIA	Simularea unei linii de productie		Prof.univ.dr.habil.ing. Valentina Balas
11	Mihai Smeu	An I ASI	Vehicule automate intr-un mediu inteligent de transport		Prof.univ.dr.habil.ing. Valentina E. Balas Prof.univ.dr.habil.ing. Marius M. Balas
12	Palea Lidia	An II AIA	Senzori de proximitate. Aplicatie	<p>The sensor is a technical device, which reacts qualitatively or quantitatively by its own measurable quantities, to certain physical or chemical properties of the environment around it. As a component part of a device or technical detector system it can measure / record for example pressure, humidity, magnetic field, acceleration, force, sound intensity, radiation</p> <p>Broadly speaking, proximity refers to the degree of proximity between two objects, one of which is the reference system.</p> <p>Capacitive sensors are based on the variation of electrical capacity in a circuit and have the advantage that</p>	Prof.univ.dr.habil.ing. Valentina Balas

				they can also detect non-metallic objects. However, they are sensitive to disturbing factors, such as dirt on the active face.	
13	Redis Ioan	An II AIA	Traductoare de umiditate. Aplicatie		Prof.univ.dr.habil.ing. Valentina Balas
14	Teodorovits Attila-Tiberiu	III AIA	Polygon scanning system with optical micrometer applications	The aim of this project was to build a lowcost experimental setup for our laser scanners lab, in order to study the behaviour of different type of polygon scanners. The project consists of a power supply, a function generator and the polygon scanning system extracted from used laser printers. The polygon scanning system consists in a polygon mirror, with different number of faces (from 4 to 12) attached on the shaft of the BLDC motor, a laser source and a photodetector. The whole setup was meant to be easy to use and integrated with the other devices from the lab.	Prof.univ.dr.habil.ing. Virgil Florin Duma
15	Florea Andreea Daniela	III AIA	Water level monitoring using Ultrasonic Sensor Based on Arduino UNO	Water plays an important role in the survival of living creatures on earth. The advancement of computerized technology encourages people to make appropriate equipment that can be utilized in various aspects of life, such as ease in controlling the performance of water pumps in the shelter. A Water Level Indicator is used to detect and indicate the water level in an overhead tank or any other water container. In this paper, we investigated the design of a water level sensor device using Arudino UNO, that can detect the level of water in a water storage system. By using the basic principle of ultrasonic sensors, i.e the ECHO method, we calculate the time of the ultrasonic waves travelling to and from and after a few calculations the answer obtained will be the water level in the tank. In the project for the water level Indicator, we will uses 5 leds which will display the percentage of water available in the water tank. The first led will show 20%, the second led will show 40%, and so on. The last led will show 100%. This monitoring system is efficient and can be used for any application involving the levels of any liquid.	

16	Penyacsek Marius	IV AIA	Studiu bibliografic privind evolutia imprimantelor		Prof.univ.dr.habil.ing. Valentina E. Balas
17	Bogdan Keta	Cl a XII-a Scoală: SC Nikola Tesla, Vrsac, Serbia	Weight scale for measuring agriculture goods with Arduino		Prof. Kristijan Cincar, Prof. Milan Njegomir, Prof. Svetlana Njegomir
18	Noemi-Clara Rohatinovici	Stud.drd. Politehnica Timisoara	Networks		Prof.univ.dr.habil.ing. Valentina E. Balas

19	Mihaela Popa	Stud.drd. Universitatea Petrol si Gaze din Ploiesti	Orase inteligente cu acoperisuri verzi		Prof.univ.dr.habil.ing. Valentina E. Balas
20	Daniel Alexuta	Stud.drd. Universitatea Petrol si Gaze din Ploiesti	Sera acvaponica		Prof.univ.dr.habil.ing. Valentina E. Balas
21	Drumil Joshi, Aayush Parikh , Ritika Mangla , Fawzan Sayed	Electronics & Telecommunication Dwarkadas J. Sanghvi College of Engineering Mumbai, India	AI Based Nose for Trace of Churn in Assessment of Captive Customers	Customer churn speculation is aimed at finding customers with a high potential for attraction. Predictive accuracy, Precision, and justification are the three critical elements of a churn predictive model. According to domain knowledge, the Accurate standards of the model allow us to identify the main drivers for customers to churn and develop an effective retention strategy. In this research paper, we present a comparative study of the most popular machine learning classifiers used to solve the problem of churning customers in the telecommunications sector. In the first phase of our test, all models were implemented and tested using statistical evaluative measures on the popular telecom database. In the second phase, the performance improved by boosting was studied. In order to determine the most efficient parameter combinations, we performed hyperparameter tuning for the best classifier and a wide range of parameters. The best overall classifier was XG Boost classifier after Hyperparameter tuning with an accuracy of almost 82% and Precision of 0.8.	Dr. Sunil H Karamchandani
22	Aamir Khambaty , Keagan Pinto, Drumil Joshi	Electronics & Telecommunication Dwarkadas J. Sanghvi College of Engineering Mumbai, India	Innovative Smart Water Management System Using Artificial Intelligence	The research paper proposes an effective solution to the critical problem of management of water resources. With the growing awareness of the need for water conservation, the world is gearing to accommodate and implement latest technology for the optimum utilisation of the drying up reservoirs. This paper aims at developing a cost effective, portable and ready to plug mechanism labelled as “Innovative Smart Water Management System Using Artificial Intelligence” which shall monitor the proportion of water usage per household and keep a tracking on metric usage on the water usage on a weekly, monthly or a yearly basis. The data generated will be established and collected in the Firebase server. Based on the collected data, it shall	Dr. Sunil H Karamchandani

				also make predictions on the usage and hence allocate resources in a controlled fashion as per requirement. Later the data will be modelled in Time Series fashion to generate real time prediction of water consumption for the household respectively. The water consumer can track the usage by a custom-made android application on MIT App Inventor. Extensive, detailed instructions have been provided on the initial setup procedure and installation. The water monitoring module is used on a daily basis and a tab is kept on the amount of water spilled. This will keep a check on the casual approach of people towards water. It will also encourage a more systematic method to handle water resources and hence would result in better conservation efforts	
23	Drumil Joshi, Fawzan Sayed, Jai Beri, Ranjushree Pal	Electronics & Telecommunication Dwarkadas J. Sanghvi College of Engineering Mumbai, India	An Efficient Supervised Machine Learning Model Approach for Forecasting of Renewable Energy to Tackle Climate Change	This paper aims to introduce a reliable forecasting model for the consumption of electricity using renewable sources (namely: offshore wind, onshore wind, and solar power) in EU countries, based on live data from the ENTSOE transparency platform as its input. The primary use behind this data science and machine learning methodology, is to help judge the availability of renewable energy resources. Afore mentioned software is put to work by inputting the desired country and associated parameters. It learns by carefully observing past patterns and their seasonality to make accurate predictions for the future. The ML algorithms used in this process are linear regression, extra trees regression, random forest regression, support vector machine (SVM) and gradient boosting, and precision is substantiated by getting a minimal Symmetric Mean Absolute Error (SMAPE) of 1-2.	Dr. Sunil H Karamchandani

Presedinte: Prof.habil. dr. ing. Marius M. Balas, UAV Arad
Membrii: Prof.dr.ing. Valeriu Beiu, UAV Arad
Prof. habil. dr. ing. Valentina E. Balas, UAV Arad
Conf.dr.ing. Simona Dzitac, Universitatea din Oradea
S.L. dr. ing. Corina Mnerie, UAV Arad
S.L. dr. ing. Adriana Micsa, UAV Arad
Secretariat: Asist.drd.ing. Mihaela Popa
Asist.drd.ing. Daniel Alexuta

Sectiunea mecanica

Nr. Crt.	Autori	Anul de studii / spec.	Titlul lucrarii	Abstract	Coordonator
1	Nedelcu Răzvan-Ioan Bujor Florin-Viorel Sechereș Bogdan-Constantin	I / PSI	Welding and mounting technology of the chassis end of the EMU electric	This paper is about using the optimal welding technology and welding regime depending on sheet gauge and the quality of the material from which it is made. Furthermore this study presents the importance of using the right tolerances and fittings in order to comply with the final dimensions.	Conf.dr.ing.Glăvan Dan Ovidiu
2	Sechereș Bogdan-Constantin Bujor Florin-Viorel	I / PSI	Design of a modular-pneumatic actuated device used for subassembly manipulation	The purpose of this paper is to present the step by step construction of a modular-pneumatic actuated device used for manipulation, how advantageous the modular structure can be if the subassembly suffers geometrical changes, how a pneumatic system works and the advantages of this system.	Ș.l. dr. ing. Aurelia Tănăsioiu
3	Sechereș Bogdan-Constantin Bujor Florin-Viorel	I / PSI	Design of a vacuum-operated semi-automatic fixing and positioning device	The purpose of this study is to present the logic that lays underneath the design of a vacuum-operated semi-automatic fixing and positioning device, a step by step presentation how the device is created and the results obtained after the finite element analysis	Ș.l. dr. ing. Aurelia Tănăsioiu
4	Sechereș Bogdan-Constantin Bujor Florin-Viorel	I / PSI	Study of the manufacturing process of a centering part and economical calculations	This paper is about using the optimal manufacturing process for obtaining the best results regarding quality and costs of a part used for centering a car subassembly.	Prof.dr.ing. Moțica Adriana Minerva
5	Bujor Florin-Viorel Sechereș Bogdan-Constantin	I / PSI	Study of how layer height influences the strength of a sample manufactured by an additive process	In this study we will investigate the influence of the thickness of the material layer on the strength of a part made by an additive manufacturing process, namely 3D printing. We printed specimens with different thicknesses of the material layer, these thicknesses are between 0.05 mm and 0.4 mm, after which we measured their tensile strength on a tensile test machine. Through this study we will want to find out the differences between the samples so as to establish an optimal thickness of the material layer.	Prof.dr.ing. Moțica Adriana Minerva
6	Dirlea Sorin	II / TCM	Amplificator 3/1;Ansamblu roți dințate conice	The work is made in the Solidworks program, consisting of the parts, assembly and animation of an amplification system. The 3/1 amplifier is an assembly of bevel gears through which the torch created by mechanical work is amplified three times.The assembly is designed on	Ș.l. dr.ing. Micșa Adriana

				the basis of a 48-tooth gear and a 16-tooth sprocket, the ratio of which is 3 to 1. Each wheel revolves around its own metal shaft, being connected to each other. Tapered wheels with straight teeth are used at low peripheral speeds. To reduce the friction force, the assembly is provided with three bearings. The amplifier is specially designed for large umbrellas.	
7	Bouroş Adrian	IV / IS	SUDAREA CONSTRUCȚIILOR METALICE	Welding is a process that uses fusion to connect metals together. It is the strongest and most durable way to join metals and is used in many industries. Some of the best-known processes include shielded arc welding, flux-core arc welding, and submerged arc welding.	Ș.l. dr. ing. Komjaty Andrei
8	Frentiu Dennis Biris Cristian- Mihai Isac Cosmin- Ovidiu	IV / IS	PROCES TEHNOLOGIC	Technological progress refers to the discovery of new and improved methods of producing goods. Changes in technology lead to an increase in productivity of labor, capital, and other factors of production. Technology refers to the process through which inputs are transformed into outputs.	Ș.l. dr. ing. Komjaty Andrei
9	Isac Cosmin – Ovidiu	IV / IS	Fluxul de tehnologic la debitarea cu plasma		S.L. dr. ing. Wisznovszky Elena Stela, Sl. dr.ing. Culda Lavinia
10	Julean Raul	IV AR	Engine efficiency comparison study between a gasoline direct injection engine and a port injection engine		Ș.l. dr. ing. Radu Iulian Negrila
11	Aiftincai Daniel	IV AR	Braking efficiency study on a ABS system and a non-ABS system		Ș.l. dr. ing. Radu Iulian Negrila
12	Salcianu Lucian	IV AR	General consideration about a two stroke diesel engine efficiency using a modern high pressure direct injection system		Ș.l. dr. ing. Igrat Sorin
13	Petrovici Sandu	IV AR	Efficiency study for an electric vehicle using an electronically actuated cvt transmission.		Ș.l. dr. ing. Igrat Sorin

Presedinte : Conf. dr. ing. Glavan Dan Ovidiu

Membrii:
prof. dr. ing. Motica Adriana Minerva
S.L. dr. ing. Komjaty Andrei
S.L. dr. ing. Tanasoiu Aurelia
S.L. dr. ing. Wisznovszky Elena-Stela

Sectiunea elevi licee

Nr.crt.	Titlu Lucrare	Date profesori si elevi
1.	Invertor de 12 V	Profesori coordonatori: Deac Florian Elevi: Barbu Albert Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
2.	Decoratiune de craciun cu LED	Profesori coordonatori: Deac Florian, Moldovan Mariana Elevi: Barbu Albert Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
3.	Circuit electric cu divizor de tensiune	Profesori coordonatori: Mureşan Maria Elevi: Butnaru Petrică Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
4.	Lămpi RGB. Lămpi decorative	Profesori coordonatori: Petcut Maria Elevi: Coman Darius Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
5.	Oscilatorul Royers. Dispozitiv antigravitație	Profesori coordonatori: Petcut Maria Elevi: Alexuța Ilie Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
6.	Sistem de iluminat 3D cu LED	Profesori coordonatori: Lascoiu Alexandru Elevi: Cojocaru Simina Elena, Țînă David Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
7.	Pornire directă a motorului	Profesori coordonatori: Lascoiu Alexandru Elevi: Bercea Emanuel, Bercea Alexandru Valentin Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
8	Machetă macara	Profesori coordonatori: Lascoiu Alexandru Elevi: Oltean Raul Ionel, Țînă Alin Daniel Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
9.	Generator solar	Profesori coordonatori: Craivan Vasile Elevi: Ciordari Ovidiu, Szabo Darius Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad

10.	Sursă de curent continuu	Profesori coordonatori: Craivan Vasile Elevi: Selișteanu Andrei, Bota Sebastian Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
11.	Minifrigider	Profesori coordonatori: Craivan Vasile Elevi: Marcan Flavius, Kiraly Eric Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
12.	Instalații de iluminat	Profesori coordonatori: Craivan Vasile Elevi: Parnea Alexandru, Grozav Florian Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
13.	Instalații cap-scară	Profesori coordonatori: Craivan Vasile Elevi: Codoș Cătălin, Chiuariu Fabian Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
14	Instalații cap-cruce	Profesori coordonatori: Craivan Vasile Elevi: Chira Alin, Trif Denis Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
15	Instalație electrică cu 8 becuri și 4 prize	Profesori coordonatori: Craivan Vasile Elevi: Halasz Cătălin, Ungureanu Florin Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
16	Panou solar	Profesori coordonatori: Craivan Vasile Elevi: Bodea Ovidiu Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
17	Mini sera	Profesori coordonatori: Rohatinovici Noemi-Clara, Deac Lucica Elevi: Felea Dorin Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
18	Casa verde	Profesori coordonatori: Rohatinovici Noemi-Clara, Milos Lavinia Elevi: Botas Lavinia Ioana, Chis Andrada Oana Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
19	Studiu bibliografic asupra securitatii cibernetice	Profesori coordonatori: Rohatinovici Noemi-Clara, Milos Lavinia Elevi: Trausan Alexandru Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
20	Imprimante 3D	Profesori coordonatori: Rohatinovici Noemi-Clara, Batranut Lenuta Elevi: Costea Alexandru Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
21	Astabil	Profesori coordonatori: Rohatinovici Noemi-Clara, Chirilas Corina Elevi: Ginju Iasmina Elena Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad

22	Bara de semnalizare	Profesori coordonatori: Rohatinovici Noemi-Clara, Chirilas Corina Elevi: Ginju Iasmina Elena Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
23	Senzor de umiditate	Profesori coordonatori: Rohatinovici Noemi-Clara, Chirilas Corina Elevi: Cinhinau Adrian Marius Nicolae, Cosma Sebastian Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad
24	Senzor de lumina	Profesori coordonatori: Rohatinovici Noemi-Clara, Chirilas Corina Elevi: Oana Pavel Liceul Tehnologic de Electronica si Automatizari "Caius Iacob" Arad