Conf.dr.ing. Rusu-Both Roxana

Nr.crt.	Titlu lucrare	Scurta descriere	Cerinte	Nivel (licenta/master)
1-2	Machine Learning in Autonomous Driving – in collaboration with Bosch	Data processing. Data augumentation techniques implementation. Control system development. Testing and Validation	Data processing, Data Augumentation techniques, Machine Learning, Programming	Licenta
2-5	Industrial process control – in collaboration with Emerson (including available experimental stands)	Process modeling and identification. Control system design and implementation. Testing and Validation	Control engineering, DeltaV	Licenta si Master
6	Control solutions for Self-balancing motorcycle	Experimental set-up design and implementation. Process modeling and identification. Control system design and implementation. Testing and Validation	Control engineering, mathematics, electronics, programming	Licenta
7	Control solutions for Spider robot	Experimental set-up design and implementation. Process modeling and identification. Control system design and implementation. Testing and Validation	Control engineering, mathematics, electronics, programming	Licenta
8	Computer aided diagnosis system for lung cancer – in collaboration with UMF	Medical Criteria evaluation algorithm development. Diagnosis system development. Testing and Validation	Image processing, Machine Learning, Programming	Licenta si Master
9	Computer aided diagnosis system for fybrosis – in collaboration with UMF	Medical Criteria evaluation algorithm development. Diagnosis system development. Testing and Validation	Image processing, Machine Learning, Programming	Licenta si Master
10-11	Computer aided system for	Medical Criteria evaluation	Image processing, Machine Learning,	Licenta si Master

	identification and classification of metastatic lymph nodes – in collaboration with UMF	algorithm development. Diagnosis system development. Testing and Validation	Programming	
12-13	EEG Signal Analysis for Disease Diagnosis	EEG data aquisition. Feature extraction. Diagnosis system development. Testing and Validation	Data aquisition, Signal Processing, Machine Learning, Programming	Licenta si Master
13-14	EEG Signal Processing Methods for Brain Computer interface (including automotive field)	EEG data aquisition. Feature extraction. Diagnosis system development. Testing and Validation	Data aquisition, Signal Processing, Machine Learning, Programming	Licenta si Master
15	EMG Signal Processing for prostetic control	EMG data aquisition. Feature extraction. Control system design and implementation. Testing and Validation	Data aquisition, Signal Processing, Machine Learning, Programming	Licenta si Master
16-17	Assistive autonomous robots / Collaborative robots	Various topics for autonomous robots that assist disabled persons or perform specific tasks. Experimental set-up design and implementation. Control system design and implementation. Testing and Validation.	Control engineering, mathematics, electronics, programming	Licenta
18	Control solutions for Ball& Plate system	Experimental set-up design and implementation. Process modeling and identification. Control system design and implementation. Testing and Validation	Control engineering, mathematics, electronics, programming	Licenta
19-20	Automation solutions for Smart Homes (healtier lives): air quality control	Various topics for user centric Smart home systems. Experimental set-up design and implementation. Control system	Electronics, Control engineering, Programming	Licenta

		design and implementation. Testing and Validation.		
21	Earthquake&Fire Monitor and Alerting System Using Stm32	Experimental set-up design and implementation. Process modeling. Control system design and implementation. Testing and Validation	Control engineering, mathematics, electronics, programming, machine learning	Licenta
22	Machine learning for anomaly detection in data -In collaboration with Bosch	Data understanding, pre-processing and modeling. Anomaly detection methods	Data aquisition, Signal Processing, Machine Learning, Programming	Licenta si Master