




Formular për punën shkencore të realizuar Формулар за реализирана научна работа Form for realized Scientific Work

Formulari i nënshkruar dhe me email duhet ti dorezohet Dekanit dhe ai e dorezon te pro-rektori për shkencë
Формуларот пополнет и потпишан преку емаил треба се достави до деканот а тој до проректорот за наука.
The form should be delivered signed hard copy and emailed to the Dean of Faculty and he to Vice Rector for Science

Emri Mbiemri (dhe Nënshkrimi) Име Презиме (и Потпис)	 Zoran Gacovski,
Titulli akademik (data dhe viti kur eshte marur) Наставно-научно звање (датум и год кога е добиена)	Profesor i rregullt, 14.11.2020
Drejtimi / Fakulteti Смер / Факултет	Fakulteti i Shkencave Teknike
Fusha e punimeve shkencore (Frascati) Области на трудовите (Frascati)	Automatikë, Inxhinieri i sistemit

Published Research in the past 5 years (List all papers under proper time category starting with most recent)
Hulumtimi i Publikuar ne 5 vitet e fundit (Listoi te gjitha punimet me renditje kohore, duke filluar nga i fundit)
Публикувани трудови во последните 5 години (Излистај ги сите по хронолошки аспект почнувајќи од последната)

CONFERENCES - Konferencat – Конференции

Local Conference (2015-2020)		
1	Reference	
	Link published	
2	Reference	
	Link published	

National Conference (2015-2020)		
1	Reference	
	Link published	
2	Reference	
	Link published	

International Conference (2015-2020)		
1	Reference	Kamceva E., Z. Gacovski, A. Sefidanoski, (2019), Best paper award . "E-learning System based on Recommendations, implemented in Matlab", In Proc. of <i>MILCON - International Military Scientific Conference</i> , Skopje (MK), 2019.
	Link published	Published as hard-copy and CD, http://www.ma.edu.mk/?vesti=milcon-2019-call-papers
2	Reference	Gacovski Z., A. Sefidanoski, S. Jakimovski, (2019), "ICT applied as assistive technology for impaired people", in Proc. of IX Idea Conference, European University, Skopje, 2019.
	Link published	Published as hard-copy and CD, https://www.eu.edu.mk/wp-content/uploads/2019/12/IJSA-IDEA-Vol.3-No.6.pdf

3	Reference	Gacovski Z., Gjorgjiev I., (2019), "Project Assignment Problem Solved by Neuro-Fuzzy Inference System", In Proc. of <i>ICAISC - 7-th International Conference on Artificial Intelligence and Soft Computing</i> , New York (USA).
	Link published	Published as hard-copy and CD, https://www.allconferencealert.com/event-detail.html?ev_id=215406&eventname=
4	Reference	Gacovski Z., S. Jakimovski, (2018), "An Architecture for Fusion of Multi-Modal Sensory Inputs", In Proc. of <i>IDEA, 8-th International Conference at EURM</i> , pp.12-16, Skopje (MK), 2018.
	Link published	Published as hard-copy and CD, https://www.eu.edu.mk/wp-content/uploads/2019/12/IJSA-IDEA-Vol.2-No.4.pdf
5	Reference	Antoska V.K, Z. Gacovski, S. Deskovski, (2016), "Trajectory following and Obstacles Avoidance of a 4-wheeled Mobile Robot's Movement", In Proc. of <i>13-th International Conference ETAI</i> , Struga (MK), pp. 152-157.
	Link published	Published as hard-copy and CD, http://etai.feit.ukim.edu.mk/
6	Reference	Antoska V.K, Z. Gacovski, S. Deskovski, (2016), "Mobile Robot Guidance in Presence of Obstacles, using the Potential Fields Method", <i>51-st ICEST Conference - Ohrid</i> , pp. 389-393, June 2016.
	Link published	Published as hard-copy and CD, https://icestconf.org/2016/

JOURNALS

Local Journal (2015-2020)

1	Reference	
	Link published	
2	Reference	
	Link published	

National Journal (2015-2020)

1	Reference	
	Link published	
2	Reference	
	Link published	

International Journal (2015-2020)

1	Reference	V. Antoska, Gacovski Z., S. Deskovski, (2018), "Guidance and Control System for Platoon of Autonomous Mobile Robots", <i>Journal of Electrical Engineering</i> , USA, vol. 6, No. 5, pp.281-289, ISSN 2328-2223, 2018.
	Link published	http://www.davidpublisher.org/index.php/Home/Article/index?id=37242.html
2	Reference	Antoska V.K, Z. Gacovski, S. Deskovski, (2017), "Obstacle Avoidance Algorithm for Mobile robots, using the Potential field method", <i>Horizon Research Journal on Control and Automation</i> , vol. 5, No. 4, 2017.

	Link published	http://www.hrpub.org/journals/article_info.php?aid=6680
3	Reference	Petrovska Olivera, Antoska-Knights Vesna, Gacovski Zoran and Deskovski Stojce (2017), <i>Information And Communication Technologies (Ict) Implemented In Smart Cars</i> . South East European Journal Of Sustainable Development.
	Link published	Information And Communication Technologies (Ict) Implemented In Smart Cars.

International Journal with Impact Factor ISI Web of Science – Clarivate analytics (2015-2020)

1	Reference	Deskovski S., V. Sazdovski, Z. Gacovski, (2016), "Guidance Laws and Navigation Systems for Quadrotor UAV: Theoretical and Practical Findings", <i>Springer - Studies in Systems, Decision and Control</i> , vol. 55, pp.395-407, May, 2016
	Link published	https://link.springer.com/book/10.1007/978-3-319-28860-4
2	Reference	
	Link published	

Studies and monographs (Local, National, International publication house) (2015-2020)

1	Reference	
	Link published	
2	Reference	
	Link published	

Books (Local, National, International publication house) (2015-2020)

1	Reference	"Structured programming", European University Skopje, 2017
	Link published	Published as hard copy (in Macedonian)
2	Reference	"Artificial Neural Networks", Zoran Gacovski, by Arcler Education, 2017
	Link published	https://www.amazon.com/Artificial-Neural-Networks-Zoran-Gacovski/dp/1680944592
3	Reference	"Human-Computer Interaction", by Arcler Education, 2019
	Link published	https://www.bookdepository.com/Human-Computer-Interaction-Zoran-Gacovski/9781774073483

Projects participation (2015-2020)


1	Reference	Erasmus+ KA203 – CIRCECO Project, 2017-1-MK01-KA203-035392
	Link published	https://circeco.net/
2	Reference	Volvo Group – Autonomous self-driving truck VERA, 2017, Gothenburg
	Link published	https://www.volvotrucks.com/en-en/about-us/automation/vera.html



* - International Conference or Journal is considered the one that has at least 50% international members in the editorial board.

PERSONAL INFORMATION



Zoran Gacovski, PhD

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 Skype zoran.gacovski

Sex M | Date of birth 21/05/1971 | Nationality Macedonian

JOB

Professor in Technical Sciences, Mother Theresa University, Skopje

PERSONAL STATEMENT

Reliable, well-motivated, trusted lecturer in Automation / Mechatronics / Computer engineering, with broad knowledge and experience in different IT disciplines.

WORK EXPERIENCE

Replace with dates (from - to)

01/2020 - to date: Professor in Automation / Mechatronics – Mother Theresa University - Skopje

Duties: Courses taught / research conducted:

- MEMS Systems
- Software engineering
- Human-computer interaction
- Decision-making Theory

06/2014 – 12/2019: Professor in Information technology / Computer science - European University - Skopje

Duties: Courses taught / research conducted:

- IT Project management
- Software engineering
- IT system security
- Algorithms and data structures

08/2003 – 06/2014: Professor in Information technology / Computer science - FON University - Skopje

Duties: Courses taught / research conducted:

- Object-oriented Programming
- Software engineering
- IT system security

08/2002-07/2003: Research associate at the Center for Advanced Information Processing (CAIP) - Rutgers University, USA (user-experienced design).

(UX design, Human-computer interaction, Software engineering);

DISCIPLE project: Human-computer Interaction based on speech and gaze (for Rutgers University, USA, 2002-2003) - sponsored by US Army and Ford. The system was developed in Java. IBM Via Voice software was used as a speech recognizer, and ISCAN as a gaze tracker. Analysis of the user intention based of a large number of experiments and subjects – performed in MATLAB and statistical tool SPSS

EDUCATION AND TRAINING

Replace with dates (from - to)

1997-2002, PhD in Technical Sciences

University St. Cyril and Methodius, Skopje, Faculty of Elec. and Computer Engineering

1995-1997, MSc in Computer and Control Engineering

University St. Cyril and Methodius, Skopje, Faculty of Elec. and Computer Engineering

1990-1995, BSc in Computer and Control Engineering

University St. Cyril and Methodius, Skopje, Faculty of Elec. and Computer Engineering

GPA 9.50/ 10 (Top 5% in class)

PERSONAL SKILLS

Mother tongue(s)

Macedonian, Serbian, Bulgarian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C1	C1	C2
Replace with name of language certificate. Enter level if known.					
French	B1	B1	B1	B1	B1
Replace with name of language certificate. Enter level if known.					

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

Communication skills

- Excellent verbal and written communication skills. Able to conduct lecturing in different subjects clearly and concisely, using effective presentations.

Organisational / managerial skills

- Dean of Faculty of Informatics, European University, Skopje, 2015-2016.
- Leader of a project team (responsible for a team of 8 people, 2003-2013, FON, Skopje).

Job-related skills

- Teaching and Lecturing in different Automation/ Software engineering subjects.
- Algorithms, Matlab, IT Project management/ MS Project/ Java/ .NET.

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient	Proficient	Proficient	Proficient	Proficient

Levels: Basic user - Independent user - Proficient user

Replace with name of ICT-certificate(s)

- Strong experience (methods/ tools): Matlab, BPMN, MS Visio, MS Office.
- Software coding: C/C++, Java, .NET, HTML + mathematical skills.
- Platforms: Windows Sever, UNIX / Linux, SOA & Cloud environment.
- Software Project management methods/tools: Agile/ Scrum, RUP, MS Project, Jira.
- Database understanding: MySQL, SQL Server, MS Access.

Driving licence

B category

ADDITIONAL INFORMATION

Projects

- **ERASMUS+ KA203 CIRCECO** - Online Master Study Program for Circular Economy (2018-2020), for European University - Skopje, sponsored by European Commission Erasmus+ program for Innovation cooperation initiatives and common Best practices. Five partners involved from 4 EU countries.
- **Autonomous Self-driving Vehicles** – Volvo Group, Sweden, Poland, (2017); applying automation (intelligence) to enhance the traffic safety, to improve working conditions, and lower environmental impact. On-board sensors have been embedded to monitor the vehicle's surroundings and stop the truck if an obstacle appears. Software tools (Kalman filter) were applied for the self-driving algorithm.
- **COST Action IC0904: Towards the Integration of Transectorial IT Design and Evaluation, TwinTide project** (2010-2013), sponsored by European Commission. The goal is to harmonize research and practice on modern design and evaluation methodologies across disciplines. Design and evaluation in each of these areas demands different suites of interdisciplinary expertise and methodologies, given their specific underpinning disciplines, assumptions, goals, and values.
- **wearIT@Work** (for University of Bremen, 05/2008-08/2008) - sponsored by Airbus, DAAD, and European Commission; conducted by Prof. Dr. M. Lawo (TZI – Bremen); - Sets the stage for the applicability of wearable computer in various industrial environments. Computer systems support their users or groups of users in an unobtrusive way, allowing them to perform their primary task. My task was to perform user study about usability of 2 different input devices under several different conditions.
- **DISCIPLE - Multimodal Human-computer Interaction System with modelling of the Users behaviour** (for Rutgers University, USA, 10/2002-06/2003) - sponsored by US Army and Ford, conducted by Prof. Ivan Marsic, CAIP Center, Rutgers University, USA.
- **Development and implementation of algorithms for guidance, navigation and control of moving (flying) objects/vehicles**” (for Military Academy – Skopje, 09/1998-09/2002) – a mathematical modeling is performed for missile systems using Matlab/ Simulink platform; different simulations were realized, like synthesis of mixed guidance strategy sets against different subset targets strategies, an object-oriented simulation model of an adaptive guidance and control system for IR homing anti-tank missile etc.

ANNEXES

- Fulbright fellowship holder (awarded by U.S. Government - 2002).
- IEEE member: 1996-2020 (Including Computer Society).
- DAAD grant from German Government for 6-months research stay at Technical University of Berlin (2013);
- USA NSF Award for research at Rutgers University, Piscataway – 2003.
- Best paper award at International Olympiad BOAC, St. Petresburg, 2002.
- Best paper award at Milcon Conference, 2019, Skopje
- Freelancer/Upwork profile: Zoran Gacovski / zgacovski

PAPERS PUBLISHED

Over 50 papers published in Journals / Conferences. Selected 10 papers:

- [1] Gacovski Z., V. Antoska, S. Deskovski, (2018), “Guidance and Control System for Platoon of Autonomous Mobile Robots”, *Journal of Electrical Engineering*, USA, vol. 6, No. 5, pp.281-289, ISSN 2328-2223, 2018.
- [2] Antoska V.K, Z. Gacovski, S. Deskovski, (2017), “Obstacle Avoidance Algorithm for Mobile robots, using the Potential field method”, *Horizon Research Journal on Control and Automation*, vol. 5, No. 4, 2017.
- [3] Deskovski S., V. Sazdovski, Z. Gacovski, (2016), “Guidance Laws and Navigation Systems for Quadrotor UAV: Theoretical and Practical Findings”, *Springer - Studies in Systems, Decision and Control*, vol. 55, pp.395-407, May, 2016.
- [4] Gacovski Z., S. Deskovski, S. Arsenovski (2014), “Classical and Fuzzy Control Method for a Platoon of Smart Cars”, *ARPJ Journal of Systems and Software*, vol. 4, No. 1, pp.12-19, January 2014.
- [5] Gacovski Z., S. Deskovski, (2014), “Different Control Algorithms for a Platoon of Autonomous Vehicles”, *Intern. Journal on Robotics and Automation (IJRA)*, vol. 3, No. 3, pp. 5-12, September, 2014.
- [6] Deskovski S., Z. Gacovski (2013), “Modelling and Control Algorithm for Platoon of Intelligent Vehicles”, In Proc. of 11-th International Conference ETAI, Ohrid (MK), pp. 174-179.
- [7] Siljanovski F., S. Arsenovski, Z. Gacovski (2013), “Evaluation of E-services at the Local Government Level (City of Skopje)”, In Proc. of 11-th International Conference ETAI, Ohrid (MK), pp. 207-212.
- [8] Gacovski Z. (2013), “Authentication Methods: Current trends”, In. Proc. of NATO Summer School on Cyber Defense, Ohrid (MK), pp. 89-100.
- [9] Gacovski Z., S. Deskovski and K. Veljanovska (2012), “Fuzzy Traffic Controller for Urban Intersection developed in Simulink/SimEvents”, In Proc. of 13-th IFAC Symposium on Control in Transportation Systems CTS '12, Sofia (BG), vol. 13, pp. 122-125.
- [10] Veljanovska K., Z. Gacovski and S. Deskovski (2012), “Intelligent System for Freeway Ramp Metering Control”, In Proc. of IEEE Conference on Intelligent Systems IS '12, Sofia (BG), pp. 279-282.