PERSONAL INFORMATION

Oskar Marko

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oskar.marko@biosense.rs

Sex Male | Date of birth 14/7/1990

WORK EXPERIENCE

2020 - **Assistant Director for Innovation and Business Development**

BioSense Institute, University of Novi Sad, Serbia

Collaboration with industry, technology transfer from academia to industry

H2020 project management

Leading the research in the field of Data Science, Satellite Image Processing and Deep Learning

Business or sector Research

2019 - **CEO**

Cropt d.o.o., Novi Sad, Serbia

Project management

Collaboration with agricultural producers, farm management systems and seed companies

Communication with investors, clients and partners

Business or sector AgTech

2016 - 2020 **Research Assistant**

BioSense Institute, University of Novi Sad, Serbia

Research in the field of artificial intelligence, machine learning, data analytics, evolutionary algorithms, multi-objective portfolio optimisation and satellite image processing, applied in agriculture.

Project leader for Syngenta Crop Challenges 2016 and 2017.

Project leader for Smart Seed Selection project funded by CGIAR.

WP leader for DRAGON – collaboration with industry.

Project manager of Use Case #1 in CYBELE, an H2020 project.

BioSense's point of contact for travels and staff exchange in ANTARES.

Business or sector Research

2016 - **Teaching Assistant**

Faculty of Science, University of Novi Sad, Serbia

Courses: Introduction to Image Processing, Pattern Recognition and Machine Learning

Business or sector Academia

2016 - 2016 **Junior Research Assistant**

BioSense Institute, University of Novi Sad, Serbia

Research in the field of machine learning, data analytics and image processing applied in agriculture.

Business or sector Research

2014 - 2016 **Junior Research Assistant**

Faculty of Technical Sciences, University of Novi Sad, Serbia

Research in the field of machine learning, data analytics and image processing applied in agriculture.

Business or sector Research

EDUCATION AND TRAINING

2014 - 2019 **PhD degree**

Faculty of Technical Sciences, University of Novi Sad, Serbia

Supervisors: Prof. Vladimir Crnojević and Prof. Dejan Vukobratović

PhD thesis title: Application of Innovative Methods of Machine Learning in Biosystems

2013 - 2014 **Master of Science in Electrical and Computer Engineering**

Integrated Undergraduate Academic and Graduate Academic – Master level studies

Faculty of Technical Sciences, University of Novi Sad, Serbia

Master thesis title: Real-Time Gesture Recognition Based on Colour and Motion Segmentation

PARTICIPATION IN PROJECTS

EU-funded projects (H2020)

ANTARES - Centre of Excellence for Advanced Technologies in Sustainable Agriculture and Food Security, H2020 Teaming Programme phase 2, 2017-2024

CYBELE - Fostering Precision Agriculture And Livestock Farming Through Secure Access To Large-Scale HPC-Enabled Virtual Industrial Experimentation Environment Empowering Scalable Big Data Analytics**,** 2019-2021, **Satellite Use Case**

DRAGON - Data Driven Precision Agriculture Services and Skill Acquisition**, 2018-2021 WP leader**

CGIAR

Smart Seed Selection – CGIAR Platform for Big Data in Agriculture

EBRD Green Innovation Vouchers

Smart Irrigation – Project in cooperation with Čarnić Farm

NATIONAL

Sensor Technologies for Integrated Monitor of Agriculture in Vojvodina, Funded by the Provincial Secretariat for Higher Education and Scientific Research, Vojvodina, Serbia, 2016-2019

Monitoring in Agriculture, Water Management and Forestry based on Remote Sensing, Funded by the Provincial Secretariat for Higher Education and Scientific Research, Vojvodina, Serbia, 2016-2019

Development of novel IC technologies using advanced mathematical methods with applications in medicine, communications, power, national heritage protection, and education, 2011–2019

OTHER ACTIVITIES

2018 – Consulting in IT/agri

HONOURS AND AWARDS

2014 – Telenor's Prof. Dr Ilija Stojanović Award for the best student of telecommunications in Serbia

2016 - Syngenta Crop Challenge 4th prize

2017 - Syngenta Crop Challenge 1st prize

2018 - CGIAR Inspire Challenge Winner

2018 – BizLife's award, 30 most successful people in Serbia under the age of 30

2019 – Award for the best technological solution at Technology Transfer Fair

PERSONAL SKILLS

Mother tongue(s): Serbian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
German	B2	B2	B1	B1	B2
English – FCE, TOEFL					

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

Communication skills

- Excellent written and verbal communication skills gained through project management and lecturing
- Excellent presentation skills gained through lecturing, TV appearances and conferences
- Excellent skills in communication with industry and academia

Organisational / managerial skills

- Leadership and organisational abilities
- Coaching and guiding (supervising students)
- Strong problem-solving and analytical skills

Digital competence

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

- Proficient user of office suite (word processor, spread sheet, presentation software)
- Coding skills in Python, MATLAB, C/C++, R
- Use of GitLab, TensorFlow, Weka…

Other skills

- Algorithms

Driving licence: B

ADDITIONAL INFORMATION

Selected publications

Journal papers

Perakis, K., Lampathaki, F., Nikas, K., Georgiou, Y., Marko, O., & Maselyne, J. (2020). CYBELE–

Fostering precision agriculture & livestock farming through secure access to large-scale HPC enabled virtual industrial experimentation environments fostering scalable big data analytics. Computer Networks, 168, 107035.

Šikoparija, B., Mimić, G., Panić, M., Marko, O., Radišić, P., Pejak-Šikoparija, T., & Pauling, A. (2018). High temporal resolution of airborne Ambrosia pollen measurements above the source reveals emission characteristics. Atmospheric Environment.

Marko, O., Brdar, S., Panić, M., Šašić, I., Despotović, D., Knežević, M., & Crnojević, V. (2017). Portfolio optimization for seed selection in diverse weather scenarios. PloS one, 12(9), e0184198.

Popov, S., Miličić, M., Diti, I., Marko, O., Sommaggio, D., Markov, Z., & Vujić, A. (2017). Phytophagous hoverflies (Diptera: Syrphidae) as indicators of changing landscapes. Community Ecology, 18(3), 287-294.

Šikoparija, B., Marko, O., Panić, M., Jakovetić, D., & Radišić, P. How to prepare a pollen calendar for forecasting daily pollen concentrations of Ambrosia, Betula and Poaceae?, (2017), Aerobiologia, 1-15.

Marko, O., Brdar, S., Panic, M., Lugonja, P., & Crnojevic, V. (2016). Soybean varieties portfolio optimisation based on yield prediction. Computers and Electronics in Agriculture, 127, 467-474.

Industrial Technological Solutions

O Marko, M Panić, P Lugonja, S Brdar, V Minić, V Crnojević, Software tool for management zone mapping, 2018

O Marko, M Panić, P Lugonja, G Kitić, S Birgermajer, N Ljubičić, V Radonić, Software tool for smart irrigation based on machine learning, 2019