Katarina Brenjo
(born Miljković)

Personal data

Address:
University of Belgrade
Faculty of Mechanical Engineering,
Kraljice Marije 16,
11120 Belgrade 35, Serbia

E-mail:
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Nationality:
Serbian

Research or academic title

Research assistant

Research field/area

Mechanical engineering / Process Planning and Scheduling of Systems and Processes, Biologically Inspired Optimization, Intelligent Manufacturing Systems and Processes, Machine Learning and Artificial Intelligence, Robotics

Languages

Serbian, English, Italian, Spanish

Education

Oct. 2018 - Present
Doctoral academic studies (Ph.D., Dr.-Eng.)
University of Belgrade - Faculty of Mechanical Engineering,
Department of Production Engineering
Dissertation title: Optimization of Dynamic Integrated Process Planning and Scheduling based on Biologically Inspired Algorithms

2018
Master of Science (M.Sc.) in Mechanical Engineering
University of Belgrade - Faculty of Mechanical Engineering,
Department of Automatic Control
Thesis title: Modeling and Control of a Servo Motor System with Direct Current using Artificial Neural Networks

2016
Bachelor of Science (B.Sc.) in Mechanical Engineering
University of Belgrade - Faculty of Mechanical Engineering,
Department of Motor vehicles
Thesis title: Four Wheel Steering System for Passangers Motor Vehicles

Employment

Jan. 2025 - Present
Research assistant
University of Belgrade - Faculty of Mechanical Engineering
Department of Production Engineering
Laboratory for Industrial Robotics and Artificial Intelligence (ROBOTICS & AI)

Feb. 2019 – Dec. 2024
Junior research assistant
University of Belgrade - Faculty of Mechanical Engineering
Department of Production Engineering
Laboratory for Industrial Robotics and Artificial Intelligence (ROBOTICS & AI)

Skills

- MATLAB & Simulink
- LaTeX
- CorelDRAW
- Adobe Illustrator
- SolidWorks
- AutoCAD
- MS Office (Word, Excel, Power Point)

Publications

1. **Miljković**, **K.**, Petrović, M., Jovanović, R., **Towards Development of DC Servo Motor Intelligent Control by Applying Artificial Neural Networks** (In Serbian), 42nd JUPITER Conference, pp. 4.24 - 4.35, Belgrade, Serbia, (2020) → **M63**.

2. **Miljković**, **K.**, Petrović, M., **Integrated Process Planning and Scheduling in Dynamic Environment – the State of the art** (In Serbian), TEHNIKA – MAŠINSTVO, Vol. **69** No. **6**, DOI: 10.5937/tehnika2006733M, pp. 733 – 746, (2020) → **M51**.

3. **Miljković**, **K.**, Petrović, M., Babić, B., **Dynamic Integrated Process Planning and Scheduling Based on Genetic Algorithms, Systems** (In Serbian), Technical solution, (2021) → **M85**.

4. Miljković, Z., Babić, B., Petrović, M., Jokić, A., **Miljković**, **K.**, Jevtić, Đ., Đokić, L., **Intelligent Stereo-Visual Mobile Robot Control and Optimal Planning and Scheduling – Overview of Research Results within the Project MISSION4.0** (In Serbian), 43rd JUPITER Conference, pp. 3.13 - 3.25, Belgrade, Serbia, (2022) → **M63**.

5. Jokić, A., Jevtić, Đ., **Brenjo**, **K.**, Petrović, M., Miljković, Z., **Deep Learning-Based Visual Servoing Algorithm for Wheeled Mobile Robot Control**, In 15th International Scientific Conference MMA 2024 - Flexible Technologies, pp. 71-74 (ISBN 978-86-6022-680-0), (2024) → **M33**.

6. **Brenjo**, **K.**, Jevtić, Đ., Jokić, A., Petrović, M.M., Miljković, Z., **Intelligent Manufacturing Systems and Processes - New Directions of Development of Intelligent-Visual Control of a Mobile Robot-Drone and Optimal Scheduling of Manufacturing Processes in Dynamic Environment** (In Serbian), 44th JUPITER Conference, pp. 3.14 - 3.23, Belgrade, Serbia, (2024) → **M63**.

Projects and activities

2019-2020 Babić, B., Miljković, Z., Jakovljević, Ž., Petrović, M., **Miljković**, **K.**, et al. **An Innovative, Ecologically Based Approach to the Implementation of Intelligent Manufacturing Systems for the Production of Sheet Metal Parts**, Grant: TR-35004, Project funded by the Ministry of Education, Science and Technological Development of the Government of the Republic of Serbia.

2020 - 2021 Popović, V., Babić, B., Miljković, Z., Jakovljević, Ž., Petrović, M., **Miljković**, **K.**, et al. **Integrated Research in Macro, Micro, and Nano Mechanical Engineering – Deep Learning of Intelligent Manufacturing Systems in Production Engineering**, Project financed by the Ministry of Education, Science and Technological Development of the Government of the Republic of Serbia, under the contract numbers 451-03-68/2020-14/200105 and 451-03-9/2021-14/200105.

2020 - 2022 Miljković, Z., Babić, B., Jakovljević, Ž., Petrović, M., **Miljković**, **K.**, et al. **Deep Machine Learning and Swarm Intelligence-based Optimization Algorithms for Control and Scheduling of Cyber-Physical Systems in Industry 4.0 - MISSION4.0**, Grant: 6523109, Project financed by the Science Fund of the Republic of Serbia.

2022 - 2023 Babić, B., Miljković, Z., Jakovljević, Ž., Petrović, M., **Miljković**, **K.**, et al. **Integrated Research in Macro, Micro, and Nano Mechanical Engineering**, Project financed by the Ministry of Education, Science and Technological Development of the Government of the Republic of Serbia as well as Ministry of Science, Technological Development and Innovation of the Government of the Republic of Serbia, under the contract numbers 451-03-68/2022-14/200105 and 451-03-47/2023-01/200105).

2024-Present Miljković, Z., Jakovljević, Ž., Petrović, M., **Brenjo**, **K.**, et al., **Deep Learning and Cybersecurity of Cyber-Physical Systems within the INDUSTRY 4.0**, Project financed by the Ministry of Science, Technological Development and Innovation of the Government of the Republic of Serbia, under the contract number 451-03-65/2024-03/200105).

Datasets

1. **Miljković, K.,** Petrović, M., **Dataset of Alternative Process Plan Networks for Dynamic Integrated Process Planning and Scheduling**, (Version 0.1.0) [Data set]. Zenodo, http://doi.org/10.5281/zenodo.4400610 , 2020.