

Research interests

- Representation learning, Deep reinforcement learning, Quality-Diversity, Robotics
- Uncertainty-based efficient policy search methods

Education

- 2016 – now** **PhD researcher**
Robot Intelligence Lab, Imperial College London
- 2011 – 2013** **MSc European Master On Advanced Robotics (EMARO), double degree**
Thesis development: Keio University, Japan
2nd year: Ecole Centrale de Nantes, grade average A
1st year: University of Genova, grade average A
- 2007 – 2011** **BSc Mechatronics, Robotics and Automatization.**
Faculty of Technical Sciences, University of Novi Sad.
240 ECTS, grade average 10 [100/100]

Employment and academic activities

- 09/2018 – 01/2019** **Research Intern: DeepMind, London, UK**
Efficient exploration for Sim2Real transfer
[Host: Francesco Nori]
- (06 – 08)/2017** **Data Scientist: WeAreHuman.io (previously CitySail), London, UK**
Developing and implementing models for real-time human personality estimation.
- 01/2015 – 05/2016** **Research Assistant: iBug group, Imperial College London, UK**
Sequential probabilistic models for emotion recognition based on facial expressions and audio data. Multimodal Neural Conditional Random Fields for Behaviour Analysis.
- 2015 – now** **Graduate Teaching Assistant: Imperial College London, UK**
Machine Learning (prof Maja Pantic),
Computing II, Robotics (Dr Petar Kormushev)
Data Structures and Algorithms (Dr Heikki Peura)
- 12/2013 – 07/2014** **Research Engineer: RIS group, LAAS-CNRS, Toulouse, France**
Rover locomotion diagnostics based on proprioceptive sensor feeds.
- 07/2013** MSc thesis testing sessions: Japanese Aerospace Exploration Agency's (JAXA) Institute of Space and Astronautical Science on the "Cuatro" rover test bed
- 2011** Team leader: National robotics competition (EUROBOT)
- (09 – 10)/2010** **Intern: Mihajlo Pupin Institute, Belgrade, Serbia**
Robotic gripper and small rover movement programming.
[Host: Professor Aleksandar Rodić]

Publications

N Rakicevic, A Cully, P Kormushev. "Exploring the Manifold Hypothesis in the Context of Neural Network Parameters", [in preparation], 2021

N Rakicevic, A Cully, P Kormushev. "Policy Manifold Search: Exploring the Manifold Hypothesis for Diversity-based Neuroevolution", [under review], 2021

RP Saputra, **N Rakicevic**, D Chappell, K Wang, P Kormushev. "Hierarchical Decomposed-Objective Model Predictive Control for Autonomous Casualty Extraction", IEEE Access, 2021

N Rakicevic, A Cully, P Kormushev. "Policy Manifold Search for Improving Diversity-based Neuroevolution", Beyond Backpropagation Workshop (NeurIPS), 2020 [**oral 8% acceptance rate**]

RP Saputra, **N Rakicevic**, P Kormushev. "Sim-to-Real Learning for Casualty Detection from Ground Projected Point Cloud Data", IROS, 2019

N Rakicevic, P Kormushev. "Active Learning via Informed Search in Movement Parameter Space for Efficient Robot Task Learning and Transfer", AURO, 2019

N Rakicevic, P Kormushev. "Efficient Robot Task Learning and Transfer via Informed Search in Movement Parameter Space", AIRW (NIPS), 2017

N Rakicevic, O Rudovic, S Petridis, M Pantic. "Multi-Modal Neural Conditional Ordinal Random Fields for Dynamic Agreement Level Classification", ICPR, 2016

N Rakicevic, O Rudovic, S Petridis, M Pantic. "Neural Conditional Ordinal Random Fields for Agreement Level Estimation", WASA, 2015.

Services

Reviewer **International Conference Learning Representations; 2021**

Reviewer **Journal of Intelligent & Robotic Systems; 2020**

Reviewer **International Conference Machine Learning; 2020 (top reviewer)**

Reviewer **NeurIPS 2019 Workshop on Robot Learning; 2019, 2020**

Reviewer **IEEE International Conference on Humanoid Robots; 2019**

Reviewer **IEEE International Conference on Robotics and Automation; 2018, 2020**

Seminars

2020 DAAD Postdoc-Net-AI Fellow

2019 Machine Learning Summer School, London, UK

2017 Deep Reinforcement Learning Bootcamp, Berkeley, CA

Awards and recognitions

2016 – 2020 Imperial College London President's PhD Scholarship

2011 – 2013 Erasmus Mundus scholarship laureate for the EMARO MSc programme

2010/2011 Declared best student in generation 2010/11, University of Novi Sad

2010 – 2013 "Dositeja" scholarship laureate, Ministry of Youth and Sport, Republic of Serbia

2009/2010 University of Novi Sad scholarship laureate

2008 – 2012 Annual award to exceptional students, Ministry of Education, Republic of Serbia

Skills

Computer skills [active] Python, Tensorflow, MuJoCo, Box2D, PyBullet, LaTeX, Git
[passive] PyTorch, MATLAB, C/C++, Solid Edge, Pro/ENGINEER

Languages Serbian, English, Italian, Spanish, French

Hobbies Capoeira Club "Capoeira Associação Sérvia" (since 2005), Surfing, Drawing