



**Mario Brcic**

[mario.brcic@fer.hr](mailto:mario.brcic@fer.hr)

## ● WORK EXPERIENCE

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01/2022 – CURRENT

**ADVISOR FOR DATA SCIENCE AND AI – HUDDLE GAMING INC.**

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- Directing the R&D efforts to revolutionize the gaming industry
- Bringing in the expertise in machine learning, AI, HPC, and optimization
- Building the relevant in-house capabilities
- Projects: Optimizing the optimization process

01/11/2019 – CURRENT – Zagreb, Croatia

**ASSISTANT PROFESSOR – UNIVERSITY OF ZAGREB FACULTY OF ELECTRICAL ENGINEERING AND COMPUTING**

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- Research interests: AI (reinforcement learning) & combinatorial optimization with applications to supply-chain management, AI Safety, AI Ethics, digital twins, digital transformation, and everything related.
- Lecturing undergraduate and graduate courses: Operations Research, Algorithms and Data Structures, and Advanced Algorithms and Data Structures
- Mentoring undergraduate and graduate students.
- Participating researcher in "System for real-time monitoring and control of distributed processes, anomaly detection, early warning and forensic transaction analysis" (ESIF), joint project with Multicom d.o.o.

07/2019 – 12/2021 – Zagreb, Croatia

**DATA SCIENCE & AI TEAM LEAD – HPC ARCHITECTURE AND APPLICATION RESEARCH CENTER @ FER**

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- Leading applied and scientific research into Edge AI and AI applications in (energy-efficient, exascale) High Performance Computing with focus on multimedia, automotive, and genomics.
- Projects: European Processor Initiative (H2020), EuroCC - National Competence Centres in the Framework of EuroHPC (H2020)

## ● EDUCATION AND TRAINING

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01/10/2003 – 07/07/2008 – Unska 3, Zagreb, Croatia

**MASTER OF COMPUTER SCIENCE – University of Zagreb Faculty of Electrical Engineering and Computing**

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- Expert Systems, Graph Theory, Computer science, Software engineering, and Source code generation
- Developing and testing ideas

<https://www.fer.hr>

- Approximate Dynamic Programming, Computer science, Operations Research, Mathematical modelling, and Simulation
- Developing and testing ideas
- Scientific writing

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## ● PROJECTS

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2020 – CURRENT

### **System for real-time monitoring and control of distributed processes, anomaly detection, early warning and forensic transaction analysis**

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Industrial project with MULTICOM d.o.o. co-funded by The European Structural and Investment Funds (ESIF).

**Collaborator** on project with work on:

- development of algorithms that detect anomalies in complex software systems.

2019 – 2021

### **European Processor Initiative (EPI), H2020**

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EU project for European independence in High Performance Computing (HPC) Processor Technologies. The aim is to design and implement a roadmap for a new family of low-power European processors for extreme scale computing, high-performance Big-Data and a range of emerging applications in HPC, AI, automotive industry, etc.

**Collaborator** on project with work on:

- combinatorial optimization (genome assembly in HPC)
- machine learning (computer vision/edge AI in automotive industry)
- software optimization for target computer architectures (Arm, RISC-V, massively parallel processor array...)

2020 – 2021

### **National Competence Centres in the Framework of EuroHPC (EuroCC), H2020**

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EU project for establishment and operation of National Competence Centres (NCC) in the area of high-performance computing (HPC) in participants' respective countries. These NCCs will coordinate activities in all HPC-related fields at the national level and serve as a contact point for customers from industry, science, (future) HPC experts, and the general public alike.

**Collaborator** on project in Croatian NCC with work on:

- competence mapping
- data collection
- data analysis

2019 – 2021

## Scheduling store deliveries with transport and warehouse workload balancing

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Industrial project by major Croatian retailer Konzum d.d. The goals of this project are:

1. to formalize corporational processes and know-how
2. to develop optimization model
3. implement and deploy optimization software
4. disseminate and educate operational staff on applications of optimization in retail industry

**Consultant** with work on:

- collecting user requirements
- devising optimization model
- data processing
- implementing optimization software
- holding workshops on optimization approaches to industrial problems
- educating users on using the developed tool

2019 – 06/2021

## Scipoeia

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Startup based on Natural Language Processing (NLP) technologies. Scipoeia is decision, news and literature exploration support system for scientists. The goals are to offer:

1. recommender system for selecting publication outlets based on content and bibliometrical data
2. recommender system-driven newsfeed
3. rapid literature exploration guided by AI

**Co-founder** with work on:

- machine learning (NLP and recommender systems)
- data collection/processing/analysis
- backend development
- cloud computing, etc.

2009 – 2013

## Optimizing and managing risks in information systems

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Project supported by the Croatian Ministry of Science, Education and Sports.

**Collaborator** on project with work on:

- collaborative project scheduling with uncertainty and coordination.

2009

## Norms in e-Business

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Applied project supported by the Croatian Ministry of Science, Education and Sports.

**Collaborator** on project with work on:

- data collection
- data processing

## ● NETWORKS AND MEMBERSHIPS

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CURRENT

**IEEE**

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Co Chair of IEEE Computational Intelligence Society Croatia Chapter (2021-2022)

CURRENT

**Association for Computer Machinery (ACM)**

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CURRENT

**AGI society**

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CURRENT

**CroAI**

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CURRENT

**Croatian Society of Operational Research**

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● **HOBBIES AND INTERESTS**

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**marathon running, road cycling**

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**freediving**

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**poetry, philosophy**

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