



## Ivan Knezevic

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**Kućna:** Filipa Bajkovića 55, 81000 Podgorica (Crna Gora)

**Poslovna:** Gerhart-Hauptmann-Straße 40, 64291 Darmstadt (Nemačka)

### RADNO ISKUSTVO

#### Istraživač: Data Scientist

**GSI Helmholtzzentrum für schwerionenforschung gmbh** [ 01/09/2022 – Trenutno ]

Adresa: Planckstraße 1, 64291 Darmstadt (Nemačka)

- Izrada modela i dizajn baze podataka
- Izrada platforme za upravljenje istraživačkim podacima
- Rad na sistemu otvorenih podataka (Open Data) za potrebe Nacionalne infrastrukture istraživačkih podataka Njemačke (NFDI - Nationale Forschungsdateninfrastruktur)

#### Project associate

**European organization for nuclear research (CERN)** [ 31/01/2021 – 01/07/2022 ]

Adresa: Esplanade des Particules Building 513-2, CERN, 1211 Geneva (Švajcarska)

Veb-sajt: <https://openlab.cern/>

Naziv jedinice ili odeljenja: Openlab - **Delatnost ili sektor:** Professional, scientific and technical activities

Big data systems, Data analysis, Machine Learning, Neural Networks, Decision Trees

#### Predavač/Asistent u nastavi

**Univerzitet Mediteran** [ 01/06/2022 – Trenutno ]

Grad: Podgorica

Zemlja: Crna Gora

- Održavanje predavanja iz predmeta CAD Projektovane, Web Programiranje, Uvod u baze podataka i Digitalni marketing
- Pisanje projekata i projektne dokumentacije

#### Saradnik u nastavi

**Univerzitet Mediteran** [ 31/08/2017 – 30/01/2021 ]

Adresa: Josipa Broza bb Stari Aerodrom, 81000 Podgorica (Crna Gora)

Veb-sajt: <http://fit.unimediterran.net/>

Imejl-adresa: [fit@unimediterran.net](mailto:fit@unimediterran.net)

Naziv jedinice ili odeljenja: Faculty of Information Technology - **Delatnost ili sektor:** Education

Education, Programming, Research

#### Software developer, Information systems engineer (Part-time)

**Wind LTD** [ 31/08/2017 – 28/02/2019 ]

Adresa: Ilije Plamenca bb zg. Ave Marija, st. III/15, 81000 Podgorica (Crna Gora)

Veb-sajt: <http://wind.co.me/>

Imejl-adresa: [wind@wind.co.me](mailto:wind@wind.co.me)

Delatnost ili sektor: Information and communication

Project management, Code review, Data analysis, System planning, Database design

### **Project manager (Part-time)**

**Easynet Montenegro LTD** [ 31/01/2016 – 31/10/2016 ]

Grad: Bar

Zemlja: Crna Gora

Project management, network layout design, documentation and system design

### **Software developer, Information systems engineer**

**Wind LTD** [ 01/08/2012 – 31/08/2017 ]

Adresa: Ilije Plamenca bb zg. Ave Marija, st. III/15, 81000 Podgorica (Crna Gora)

Veb-sajt: <http://wind.co.me/>

Imejl-adresa: [wind@wind.co.me](mailto:wind@wind.co.me)

Delatnost ili sektor: Information and communication

Software development, GIS data management, Information systems design

## **OBRAZOVANJE I OSPOSOBLJAVANJE**

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### **Master of Science in Information Technologies**

**Faculty of organizational sciences, University of Belgrade** [ 19/10/2014 – 12/11/2015 ]

Adresa: Jove Ilića 154 Voždovac, 11010 Belgrade (Srbija)

Veb-sajt: <http://www.fon.bg.ac.rs/>

Studijska(e) oblast(i): Informacione i komunikacione tehnologije

Završna ocena: 9.54/10 – EQF nivo: EOK nivo 7

Završni rad: Spatial-join algorithms in spatial databases

Machine learning, Neural networks, Advanced database design

### **Award of Achievement**

**Oracle Academy** [ 31/01/2012 – 14/05/2012 ]

Database Programming

### **Award of Course Completion**

**Oracle Academy** [ 31/08/2011 – 29/12/2011 ]

Database design and Programming With SQL

### **Autodesk Certified Professional: AutoCAD**

**Autodesk - TeamCAD d.o.o.** [ 30/11/2018 – 14/12/2018 ]

Važi do: 14/12/2021

### **Successfully completed the Oracle University Seminar**

**Oracle Academy** [ 31/01/2012 – 14/05/2012 ]

Developing Web Services Using Java Technology

## **JEZIČKE VEŠTINE**

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Maternji jezik ili jezici: **Srbije** | **Crne Gore**

## Drugi jezik/jezici:

### Italijanski

SLUŠANJE C2 ČITANJE C2 PISANJE C2

GOVORNA PRODUKCIJA C2

GOVORNA INTERAKCIJA C2

### Francuske

SLUŠANJE A2 ČITANJE B1 PISANJE A2

GOVORNA PRODUKCIJA A2

GOVORNA INTERAKCIJA A2

### Engleski

SLUŠANJE C2 ČITANJE C2 PISANJE C2

GOVORNA PRODUKCIJA C2

GOVORNA INTERAKCIJA C2

### Njemački

SLUŠANJE A1 ČITANJE A2 PISANJE A2

GOVORNA PRODUKCIJA A1

GOVORNA INTERAKCIJA A1

*Nivoi: A1 i A2: osnovni korisnik; B1 i B2: nezavisni korisnik; C1 i C2: stručni korisnik*

## DIGITALNE VEŠTINE

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Microsoft Office (Microsoft Word Microsoft Excel Microsoft PowerPoint Microsoft Visio) / HTML5/CSS, Javascript / Programming in Java, C#, PHP(Laravel), JavaScript (Vue JS, React) / Python and Jupyter Notebook / Docker and Kubernetes micro-service containerization / Federated Learning (ML/DL processes) / AutoCAD / Organizational and planning skills / Database design and development (MSSQL, MySQL, Postgre SQL, SQL Lite);

## PROJEKTI

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### PUNCH4NFDI

[ 01/09/2022 – Trenutno ]

Glavni cilj PUNCH4NFDI je postavljanje federalne i "FAIR" platforme za naučne podatke, koja nudi infrastrukturu i interfejsne neophodne za pristup i korišćenje podataka i računarskih resursa uključenih zajednica i šire. PUNCH4NFDI takođe nudi usluge za efikasnu naučnu eksploataciju istraživačkih podataka.

Veza: <https://www.punch4nfdi.de/>

### Large-scale privacy-preserving data analysis platforms for medical research applications

[ 31/01/2021 – 01/07/2022 ]

1. Sumiranje najsavremenijih tehnologija primenljivih na ciljeve projekta i njihova praktična upotreba u procesu analize medicinskih podataka za očuvanje privatnosti.
2. Prikupljanje, analiza i priprema podataka za proces mašinskog učenja.
3. Kombinovanje i objedinjavanje podataka iz različitih izvora i stvaranje jedinstvenog skupa podataka.
4. Kreiranje algoritma mašinskog učenja sposobnog da predloži pacijente pogodne za terapiju adronom

### CERN Science for Open Data – CS4OD

[ 31/01/2021 – 01/07/2022 ]

Development of platform for access to different CERN tools and services used for R&D, repository access, data management, microservice development and big data systems.

Veza: <https://cs4od.web.cern.ch/>

### Luminalis CRM

[ 19/01/2020 – 09/07/2020 ]

Customer Relationship Management software for tourist agency capable of tracking leads, offers and realized projects, as well as managers and employees' activities and financial status

### Post Office POS application

[ 04/11/2019 – 09/02/2020 ]

Development of POS terminal application for Post office of Montenegro. Design activities and database design (backend DB integration with CRUD operations) and project documentation development

## **Delfis – Invoicing system**

[ 02/05/2019 – 30/06/2020 ]

Multilingual electronic invoicing system with modular design and container architecture (migrated from Docker to Kubernetes), with full API support and ability of integration with POS terminal and Tax administration electronic fiscalization requirements.

Veza: <https://delfis.me/>

## **Post Office invoicing system**

[ 14/05/2018 – 19/12/2018 ]

Custom invoicing system for Post office of Montenegro and integration with existing software for financial control

## **MobileWaiter**

[ 09/12/2017 – 04/04/2018 ]

Development of web application for administration, data management and control of mobile application used for ordering in restaurants

## **Scout – Customer loyalty program**

[ 10/04/2017 – 08/10/2017 ]

Development of CRM web application for data management of customer loyalty mobile application

## **Gaussian Conditional Random Fields– Structured regression algorithm for GCRF tool**

[ 12/09/2017 – 19/12/2017 ]

Research project. And development of an open-source software that integrates various GCRF methods and supports training and testing of those methods on synthetic and real-world datasets

## **Akvila DMS and billing system**

[ 09/12/2016 – 04/07/2017 ]

Development of document management and billing system web application for building maintenance company.

## **Geostep– treasure hunt game**

[ 14/04/2016 – 25/07/2016 ]

Startup development of web application for administration and data input of mobile game application used for creating tourist tours in a form of treasure hunt

## **DC/ACKotorConverterStation,HVDC1000MW+- 500 kVcc “ITALIA – MONTENEGRO”**

[ 04/08/2014 – 11/03/2018 ]

Development of Document management system for review, control and reporting of project documentation for undersea cable installation and construction of High Voltage DC converter station in Kotor, Montenegro. Project documentation creation and alignment with legal regulations in Montenegro. Testing of Human-Machine interface used in converter station

## **Study of spatial valorization for renewable solar power generation, Ministry of Economy, Podgorica, Montenegro**

[ 09/11/2013 – 26/05/2014 ]

Development of software for spatial data analysis used for creation of Study of spatial valorization for renewable solar power generation in Montenegro.

## **Development of Spatial database based on the data model MonPlanGML-MNE- LAMP7647-CQ-CS-12-B.1.5.1**

[ 30/11/2013 – 22/09/2014 ]

Development of spatial database and application for data input for Ministry of Sustainable Development and Tourism of Montenegro, used for cadastral plans digitalization

## **AEM2Roll-out Project-Electricity Smart Metering Solution**

[ 04/12/2012 – 30/06/2013 ]

Software for field support for Electricity Smart Metering Solution that enables sequential processing of data in different segments of the company that is charge of electric meters installation, status monitoring of a replacement through all steps of the process.

## **PUBLIKACIJE**

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### **Computer Application in construction and architecture**

[2017]

Co-author of the textbook for 1 st and 2 nd grade high school, PhD. Ranko Vojinovic, Milena Drakulović, Msc, Ivan Knezevic Msc.

Institute for textbooks and teaching aids Montenegro Podgorica 2017.

ISBN (book 1): 978-86-303-2046-0

ISBN (book 1): 978-86-303-2047-7

### **Case Studies of Dynamic SOA Services for The Healthcare Systems in Montenegro and Macedonia,**

[2014]

ICT Innovations Web proceedings, ISSN: 1865-0937

Scepanovic, S., Loshkovska, S., Balota, A., Radunovic P., Knezevic, I., Vujcic, T., Petrusic, D. & Antovic, I. (2017)

### **Comparison of the functional and imperative approach to programming**

[2014]

International Scientific-Professional conference Information Technology, Zabljak, Montenegro, 2014

Radunovic P., Vujcic T., Knezevic I.

ISBN: 978-86- 85775-15-4

### **Comparative analysis of NOSQL and SQL database, on the example of Datomic and MSSQL**

[2014]

International Scientific-Professional conference Information Technology, Zabljak, Montenegro, 2014

Vujcic T., Radunovic P., Knezevic I.

ISBN: 978-86-85775-15-4

### **Simulation model of three- state scheme**

[2012]

International Scientific-Professional conference Information Technology, Zabljak, Montenegro, 2012

Radunovic P., Vujcic T., Karanikic M., Knezevic I

ISBN: 978-86-7664-102-4

### **E-tickets based on QR code**

[2011]

International student science conference StES, Banja Luka, Bosnia and Herzegovina

Vujcic T., Radunovic P., Karanikic M., Knezevic I

ISBN: 999388062-0

## **Large-scale privacy-preserving data analysis platforms for medical research applications**

[2022]

Dizajn i predlog platforme za prikupljanje i analizu zaštićenih podataka koji bi se koristili u medicinske svrhe. Za prikupljanje podataka predložen je pristup Federativnom učenju koje bi omogućilo analizu podataka pacijenata bez kršenja zakona o privatnosti podataka. Za analizu su prikupljeni podaci o kancer pacijentima i predložena njihova obrada mašinskim učenjem radi kreiranja sugestija za odabir pacijenata koji bi se liječili hadronskom terapijom.

### **PRIZNANJA I NAGRADE**

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#### **Luča B**

Ministry of Education of Montenegro [ 14/05/2004 ]

Awarded for excellent achievements in high school

#### **Scholarship for talented students**

Municipality of Bar

Won scholarship for talented students awarded by the Municipality of Bar

#### **Scholarship for talented students**

Tuscany region (Italy) [ 09/12/2004 ]

Scholarship for talented students awarded by the Tuscany region (Italy)

#### **“10 for 10”**

Ministry for Information Society and Telecommunications

Award of Ministry for Information Society and Telecommunications as a participant of a rewarded project „Dynamic Traffic Control “(2011) and as author for project” usmjeri.me - information booklet for students and pupils” (2012)

#### **First prize in Hackathon**

HOMER project of the European Union [ 04/05/2014 ]

Won the first prize in the Montenegrin Hackathon in May 2014. With the application Geostep - An interactive tour guide, with whom he won the first prize at the International Competition in Turin, Italy in July 2014 organized by the HOMER project of the European Union. With the same application participated in the world competition in Manchester in March 2015.

#### **National scholarship for SEEIIST project**

SEEIIST [ 04/04/2020 ]

Won national scholarship for SEEIIST project in big data research. Scholarship consists of a two year stay at CERN, in Geneva and mentoring program with Big Data systems, and then the implementation of Big Data systems for the needs of the SEEIIST project.

### **KOMUNIKACIJSKE I MEĐULJUDSKE VEŠTINE**

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#### **Team spirit**

Team spirit gained through a work with other students on different projects during university education; Good ability to adapt to multicultural environments, gained through my university experience abroad and frequent work with foreigners in Montenegro

#### **Orientation to success**

Orientation to success gained while playing in a volleyball team

#### **Great communication skills**

Communication skills gained through my internship experience in student service for foreign students on university of Florence, as well as my work in multi-cultural environment

## **ORGANIZACIONE VEŠTINE**

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### **Leadership and organization**

Developed sense for leading and organization while working as project manager for Easynet Montenegro and Lambda Group LTD

## **VOZAČKA DOZVOLA**

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**Vozačka dozvola:** B