Blagoj Delipetrev

Nationality: Macedonian and Bulgarian
Address: via Enrico Cernuschi 41, 21000, Varese, Italy
Email: blagoj.delipetrev@gmail.com;blagoj.delipetrev@ec.europa.eu

About me: With an extensive background in artificial intelligence, machine learning, and cloud computing, I am a highly accomplished individual holding two doctorates in these fields. Over the years, I have gained valuable experience and expertise in scientific project management while working as a Scientific Project Officer at the European Commission's Joint Research Centre since 2017. Recently, in 2021, I achieved tenure and was appointed as a full professor in the field of computer science.

In 2015, I established Bitt Solutions where I served as the CEO/CTO. My skills in negotiating contracts, managing projects, dealing with stakeholders, building and leading teams, and implementing solutions allowed me to successfully navigate the company towards success. I have worked in various sectors including public, private, and academia, honing my skills and acquiring a diverse set of experiences.

- ## EDUCATION

January 2010 – April 2016 Delft, the Netherlands
TU Delft and UNESCO-IHE
PhD in Computer Science
Research field: Machine learning, AI, optimization algorithms, reinforcement learning.

2007 – 2011 – Skopje, North Macedonia
University Ss Cyril and Methodius Faculty of Electrical Engineering and Information Technologies
PhD in Computer Science
Research field in Cloud computing, service-oriented architecture (SOA), web GIS.

2004 – 2007 – Skopje, North Macedonia
University Ss Cyril and Methodius Faculty of Electrical Engineering and Information Technologies
M.Sc. in Computer Science
Research field in web GIS, spatial data infrastructure (SDI).
GPA 9.8/ out of 10.

1998 – 2003 – Skopje, North Macedonia
University Ss Cyril and Methodius Faculty of Electrical Engineering and Information Technologies
B.Sc. in Computer Science
Department of computer technologies, informatics, and automatics.

- ## WORK EXPERIENCE

September 2017 – CURRENT
SCIENTIFIC OFFICER – European Commission Joint Research Centre.

My primary work is to **advise and produce scientific policy support on AI, data, and technology**. I have contributed to several projects:

2018 - 2021 AI WATCH. AI WATCH is a project with DG CONNECT. I was deputy task leader in the AI WATCH project. AI WATCH monitors a) industrial, technological and research capacity, policy initiatives in the Member States, b) uptake and technical developments of Artificial Intelligence and its impact in the economy, society, and public services. AI WATCH has provided a number of analyses necessary to monitor and facilitate the implementation of the European Strategy for AI.

2019 - 2021 [Destination Earth.](#) Destination Earth (DestinE) is the EU's flagship initiative to the twin challenges of green and digital transition. Destination Earth projects have involved DGs: CNECT, DEFIS, RTD and JRC. DestinE data lake will consist of the federation of the Copernicus, ESA, ECMWF and EUMETSAT respective data lakes. DestinE infrastructure is planned as a federated system of digital infrastructures providing scalable on- demand processing capacity based on a hybrid cloud-HPC model as well as a full Earth Observation and Green Deal data space repository.

2021 - now [ENABLED.](#) ENABLED contributes to the creation and evaluation of data spaces to benefit citizens, the public and private sectors. The European Strategy for Data is assisting in the establishment of a single market for data in Europe. ENABLED conducts a series of hands-on experiments across Europe to identify technical and organisational enablers. These enablers are examined in order to identify incentives and gaps that will aid in the creation and sustainability of data ecosystems.

2018 - 2021 [YOU&AI](#) project with the Milano Museum Leonardo da Vinci on AI.
"A Portrait of the AI as a Young Cyber Oracle" project with designing and developing an AI system that generates text based on famous writers with [GPT-2](#)**.**

I am co-author and have contributed to [20+ publications of the European Commission Joint research centre](#). Among them are several JRC Flagship reports such as "Artificial Intelligence: A European Perspective", "Digital Transformation in Transport, Construction, Energy, Government and Public Administration", more specific to AI, as "AI WATCH. Defining Artificial Intelligence", "Historical evolution of AI", etc. Selected publications are listed below in the CV.

Role and responsibilities:
- Participate in project management meetings.
- Financial management.
- Contribute to the strategic vision.
- Negotiate with the stakeholders and DGs on project objectives, milestones, and deliverables.
- Contribute to drafting technical specifications, resource planning and allocations, particularly in my task.
- Co-lead team in charge of project activities.
- Managing, implementing and delivery of assigned tasks.
- Develop software projects and prototypes using AGILE.
- Technology watch and technology evaluation.
- Contribute and publish scientific and technical reports.
- Organise workshops and conferences.
- Represent the European Commission in conferences, public presentations, workshops etc.

August 2015 – Avgust 2017
FOUNDER AND CEO/CTO – [BITT solutions](#)

I was the CEO and CTO of BITT Solutions, an AI consulting and outsourcing firm. Our customers were mostly from the United States. I frequently managed multiple remote teams concurrently. We worked on projects like call centre optimization algorithms, AI-powered real estate lead generation, machine learning cloud price, and so on.

Role and responsibilities:
- Overall strategy and management.
- Leadership in strategic, financial, and operational areas.
- Vision, values, and objectives. Developing a strategy for growth and success.
- Analysis of client business needs, requirements, processes, risks, and challenges.
- Contract negotiations with clients and stakeholders.

- Clear communications with our clients, service providers, stakeholders and the team members.
- Project management.
- Design, definition of business requirements, functional and technical analysis, technical specification, prototyping, developing, testing, implementing, ensuring quality control, monitoring, integration in their existing systems.
- Recruit and assemble a team in coordination with the client.
- AI and Machine Learning solutions.
- Decision-making and task delegation. Define tasks and resource estimation. Plan and allocate resources.
- Agile software development.
- Leading and managing multiple remote teams.

Software stack: AngularJS, NodeJS, ESRI, PostgreSQL, Azure cloud, PosgreSQL, GeoServer, OpenLayers, OptaPlanner and Drools; Microsoft infrastructure.
Programming languages: .NET, Java, JS, Python.

2003 – Avgust 2017
PROFESSOR AND VICE-DEAN – Faculty of Computer Science [University Goce Delcev](#) Shtip, Republic of North Macedonia

I began my academic career as a teaching assistant in 2003. Later, I was promoted to senior assistant, and then to assistant professor in 2011. I was promoted to Associate Professor and elected Vice-Dean in 2015. I was promoted to professor of computer science in 2021.
- Overall strategy and management of the Faculty of Computer science resources and personal.
- Collaborate with universities and organisations to enhance research quality, international research collaborations, student experience (both at the undergraduate and postgraduate levels).
- Recruitment of high-quality staff and students.
- Lecturing courses: Advanced algorithms, machine learning, distributed computer systems, algorithms and data structures, and geographic information systems (GIS).
- Mentor of Master and PhD students.

EU projects:
- 2014 – 2018 Member of the management committee in ICT COST Action High-Performance Modelling and Simulation for Big Data Applications (cHiPSet).
- 2014 – 2018 Member of the management committee in ICT COST Action TD1403 Big Data Era in Sky and Earth Observation (BIG-SKY-EARTH). Leader of the WG1 (work group 1) Optimization of database tools in astro- and geophysics contexts.
- 2012 – 2016 Member of the management committee and working group WG3 Repository of VGI Analysis, Integration Tools and Methods in ICT COST Action IC1203 ENERGIC (European Network Exploring Research into Geospatial Information Crowdsourcing): Software and Methodologies for Harnessing Geographic Information from the Crowd)

During this period, I published over 50 scientific publications and served as a reviewer for several international journals. I am involved in many national and international projects and activities.

September 2015 – Avgust 2017
MANAGEMENT BOARD MEMBER – [MARNet](#) (Macedonian Academic and Research Network)

- Overall strategy, vision, values, and objectives.
- Promoting and disseminating the use of information and communication technologies especially in the academic and research sector.
- Development of policies to develop a national academic network.
- Financial management.

- **ORGANISATIONAL, LEADERSHIP AND MANAGEMENT SKILLS**
  - Team player, Helpful, Trustworthy, Integrity. Strategy, Vision, Leadership, Responsibility.
  - Experienced manager and leader in Academia, Startups and Public sector.

- **ACHIEVEMENTS**
  - **First Macedonian** to be employed as Contract Agent for the European Commission Joint Research Centre (among 3500 employees), 2017.
  - 40 under 40, United Macedonian Diaspora, 2018.
  - Among **the first recipients from Macedonia** of the PhD Fellowship from the Netherlands government , 2010 - 2014.
  - Two times grant receiver from Open Society Scholarship Programs Global Supplementary Grant (2012-2013;2013-2014).
  - HYDROAID Fellowship from Italian Ministry of Foreign Affairs, 2008.
  - Ranked among the best students in my generation with all top grades in the last year, 2003.

- **COMPUTER SKILLS**
  - **Strong knowledge in AI, Machine Learning, Data Science and Algorithms.**
  - Programming languages: Python, Java, C, C++,PHP.
  - Deep Learning, Neural Networks, Reinforcement learning, Computer Vision, Remote Sensing, Natural Language Processing, etc. TensorFlow, Keras, Numpy, Pandas, Sci-learn, etc.
  - Cloud: Amazon Web Services, Microsoft Azure, Google Cloud, Xen, Digital Ocean.
  - Git, Bootstrap, Django, Nginx, etc

- **LANGUAGE SKILLS**

  Mother tongue(s): **MACEDONIAN**

  Other language(s): **ENGLISH** | **BULGARIAN** | **CROATIAN** | **SERBIAN** | **ITALIAN**

- **SELECTED PUBLICATIONS**

Link to my 20+ publications of the European Commission Joint research centre.
Link to my 80+ publications on Google scholar.

Annoni, A., Benczur, P., Bertoldi, P., **Delipetrev, B.**, De Prato, G., Feijoo, C., Fernandez Macias, E., Gomez Gutierrez, E., Iglesias Portela, M., Junklewitz, H., Lopez Cobo, M., Martens, B., Figueiredo Do Nascimento, S., Nativi, S., Polvora, A., Sanchez Martin, J.I., Tolan, S., Tuomi, I. and Vesnic Alujevic, L., **Artificial Intelligence: A European Perspective**, Craglia, M. editor(s), EUR 29425 EN, Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-97217-1 (online),978-92-79-97219-5 (print),978-92-79-98213-2, doi:10.2760/11251 (online),10.2760/936974 (print),10.2760/91283, JRC113826.

Hupont, I, Micheli, M., **Delipetrev, B**.,Gómez, E., Soler J., (2023): Documenting high-risk AI: an European regulatory perspective IEEE Computer Society DOI:10.1109/MC.2023.3235712

Enlargement and Integration Workshop "**Digital Transformation, Data and AI in the Western Balkans**", **Delipetrev, B**., Chukaliev, O. and Idrizi, B. editor(s), Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-53599-7 (online), doi:10.2760/863985 (online), JRC129903.

Samoili, S., Lopez Cobo, M., **Delipetrev, B**., Martinez-Plumed, F., Gomez Gutierrez, E. and De Prato, G., **AI Watch. Defining Artificial Intelligence 2.0**, EUR 30873 EN, Publications Office of the European Union, Luxembourg, 2021,

ISBN 978-92-76-42648-6 (online), doi:10.2760/019901 (online), JRC126426.

Delipetrev, B., Tsinaraki, C. and Kostic, U., **Historical Evolution of Artificial Intelligence**, EUR 30221 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-18940-4 (online), doi:10.2760/801580 (online), JRC120469.

Schade, S., Tsinaraki, C., Manzoni, M., Berti Suman, A., Spinelli, F.A., Mitton, I., Kotsev, A., **Delipetrev, B**. and Fullerton, K.T., **Activity Report on Citizen Science – discoveries from a five year journey**, EUR 30551 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-28370-6 (online),978-92-76-28369-0 (print), doi:10.2760/841551 (online),10.2760/172609 (print), JRC123500.

Nativi, S., **Delipetrev, B.** and Craglia, M., **Destination Earth: Survey on "Digital Twins" technologies and activities, in the Green Deal area**, EUR 30438 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-25160-6 (online), doi:10.2760/430025 (online), JRC122457.

CBaldini, G., Barboni, M., Bono, F., **Delipetrev, B**., Duch Brown, N., Fernandez Macias, E., Gkoumas, K., Joossens, E., Kalpaka, A., Nepelski, D., Nunes De Lima, M., Pagano, A., Prettico, G., Sanchez Martin, J., Sobolewski, M., Triaille, J., Tsakalidis, A. and Urzi Brancati, M., **Digital Transformation in Transport, Construction, Energy, Government and Public Administration,** Desruelle, P. editor(s), EUR 29782 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-76-08613-0 (online),978-92-76-08614-7 (print),978-92-76-14158-7 (ePub), doi:10.2760/689200 (online),10.2760/058696 (print),10.2760/90682 (ePub), JRC116179.

Syrris, V., Hasenohr, P., **Delipetrev, B.**, Kotsev, A., Kempeneers, P., & Soille, P. (2019). **Evaluation of the potential of convolutional neural networks and random forests for multi-class segmentation of sentinel-2 imagery**. *Remote Sensing*, *11*(8), 907.

Delipetrev, B., Jonoski, A., & Solomatine, D. P. (2017). A novel nested stochastic dynamic programming (nSDP) and nested reinforcement learning (nRL) algorithm for multipurpose reservoir optimization. Journal of Hydroinformatics, 19(1), 47-61.