



# Milena Djokic



55128, Mainz, Germany



Milena Djokic



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Milena Djokic

Born: 20.08.1996., Nationality: Serbian

Computational Biologist/Bioinformatician with 4+ years of experience and strong background in processing, analysis and integration of multi-omics data to study complex diseases (genomics, transcriptomics, protein-interactomics). Proficient in Python and passionate about code efficiency optimization and automation, and data visualization. Eager to leverage and advance my expertise to contribute to machine learning-based translational computational biology research.

## SKILLS

|                       |  |
|-----------------------|--|
| Languages             | <ul style="list-style-type: none"><li>Serbian (Native), English (Professional Proficiency), Spanish (Conversational Proficiency), German (Basic Communication).</li></ul>  |
| Core competencies     | <ul style="list-style-type: none"><li>Computational Biology of Complex Diseases, Multi-omics integration, RNA Seq, Data Analysis</li></ul>   |
| Computer science      | <ul style="list-style-type: none"><li><b>Programming:</b> Proficient in Python, Strong in R/Bioconductor, Version Control (Git), High-performance Computing (HPC), Job Scheduling Systems (SLURM), Linux (Ubuntu), Shell/Bash Scripting, Virtual Environments &amp; Dependency Management.</li><li><b>Statistics &amp; ML:</b> Biostatistics, Machine Learning Fundamentals.</li><li><b>Database management:</b> SQL/MySQL.</li><li><b>Data visualization:</b> Matplotlib, ggplot2, ChimeraX, Pymol &amp; Pymol Scripting.</li></ul> |
| Document manipulation | <ul style="list-style-type: none"><li>LaTeX, Adobe Illustrator, Obsidian, Markdown.</li></ul>  |
| Additional skills     | <ul style="list-style-type: none"><li>(Agile) Project Management Basics, Public Speaking &amp; Science Communication.</li></ul>  |

## WORK EXPERIENCE

|                             |  |                |
|-----------------------------|--|----------------|
| 04/21 - 12/25<br>(expected) | <b>Doctoral Researcher   Computational Biology</b><br>Institute of Molecular Biology (IMB), Mainz  | Mainz, Germany |
|                             | <ul style="list-style-type: none"><li>Developed a robust protocol for processing and integration of bulk-RNA Seq datasets; integrated and analyzed multi-omics data (genomics, transcriptomics, interactomics and comparative genomics) and pinpointed top candidate disease-associated genes.</li><li>Developed Python and SLURM scripts to optimize AlphaFold2 interaction-interface prediction workflows on IMB's HPC cluster, improving scalability and tripling efficiency for institute-wide use.</li><li>Developed code for real-time monitoring of HPC cluster resource usage; currently building a machine learning model to improve resource-need estimation accuracy and further increase efficiency.</li><li>Coordinated collaboration with interdisciplinary parties (computational and wet-lab) across multiple projects.</li><li><b>Keywords:</b> Multi-omics, Systems Biology, Disease Mechanisms, Complex Diseases, Neurobiology.</li></ul> |                |

## EDUCATION

|                             |   |                  |
|-----------------------------|---|------------------|
| 04/21 - 12/25<br>(expected) | <b>PhD in Computational Biology</b><br>Johannes Gutenberg University<br><ul style="list-style-type: none"><li>“Investigating Molecular Mechanisms of Brain-Specificity in Neurodevelopmental Disorders through Integrative, Systems Biology.”</li></ul>   | Mainz, Germany   |
| 09/20                       | <b>International Bioinformatics and Statistics Summer School</b><br>Institute for Medical Biostatistics, Epidemiology and Informatics (IMBEI)   | Online           |
| 09/19 - 03/20               | <b>MSc in Human Molecular Genetics</b><br>Vinča Institute of Nuclear Sciences<br><ul style="list-style-type: none"><li>Awarded National Scholarship for Best Master Students of Republic of Serbia - "Dositeja" by the Ministry of Youth and the Young Talents Fund</li><li>Average grade: 10.00 (out of 10.00)</li></ul> | Belgrade, Serbia |
| 07/18 - 09/18               | <b>International Undergraduate Summer School</b><br>Gulbenkian Institute of Science<br><ul style="list-style-type: none"><li>Attended on a full fellowship</li></ul>  | Oeiras, Portugal |
| 10/15 - 09/19               | <b>BSc in Molecular Biology</b><br>University of Belgrade<br><ul style="list-style-type: none"><li>Awarded National Scholarship for Best Bachelor Students of Republic of Serbia - "Dositeja" by the Ministry of Youth and the Young Talents Fund</li><li>Average grade: 9.68 (out of 10.00)</li></ul>                    | Belgrade, Serbia |

## PUBLICATIONS

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|--------------------|--|
| 2026<br>(expected) | <ul style="list-style-type: none"><li>1st Author Publication: “Molecular mechanisms of brain-specificity in neurodevelopmental disorders.”</li></ul>   |
| 2026<br>(expected) | <ul style="list-style-type: none"><li>Collaborative Publication (2nd Author): D. Hubrich et al. “Variant characterization in the intrinsically disordered human proteome.” Nature Structural &amp; Molecular Biology.</li></ul>        |
| 2024               | <ul style="list-style-type: none"><li>Collaborative Publication (5th Author): C. Lee et al. “Systematic discovery of protein interaction interfaces using AlphaFold and experimental validation.” Molecular Systems Biology.</li></ul> |

## SELECTED CONFERENCES

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|-------|--|---------------------|
| 07/23 | <b>Intelligent Systems For Molecular Biology (ISMB) / European Conference on Computational Biology (ECCB)</b><br><ul style="list-style-type: none"><li>Poster presentation</li></ul> | Lyon, France        |
| 11/22 | <b>From functional genomics to systems biology</b><br>European Molecular Biology Laboratory (EMBL)<br><ul style="list-style-type: none"><li>Poster presentation</li></ul>            | Heidelberg, Germany |
| 04/17 | <b>Belgrade International Molecular Life Science Conference</b><br><ul style="list-style-type: none"><li>Oral talk</li></ul>   | Belgrade, Serbia    |

MENTORING

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|---------------|--|----------------|
| 06/23 - 08/23 | • Ahmed Saadawy - International Summer School (ISS) Supervision. | Mainz, Germany |
| 09/21 - 10/22 | • Kristina Hintz - Master Thesis Supervision.                    | Mainz, Germany |

PERSONAL INTERESTS

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- Salsa dance, Reading, Interior Design and Endurance Training.