Milena Djokic

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(iD) Milena Djokic

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(in) Milena Djokic

Born: 20.08.1996., Nationality: Serbian

Computational Biologist/Bioinformatician with 4+ years of experience and strong background in integration and analysis of multi-omics (i.e. genomics, transcriptomics, structural proteomics) data for studying complex diseases. 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	• Serbian (Native), English (Professional Proficiency), Spanish (Conversational Profficiency), German (Basic Communication).
Core competencies	• Computational Biology of Complex Diseases, Multi-omics integration, RNA Seq, Data Analysis
Computer science	• **Programming:** Proficient in Python, Strong in R/Bioconductor, Version Control (Git), High-performance Computing (HPC), Job Scheduling Systems (SLURM), Linux (Ubunu), Shell/Bash Scripting, Virtual Environments & Dependency Management.
	• **Statistics & ML:** Biostatistics, Machine Learning Fundamentals.
	• **Database management:** SQL/MySQL.
	• **Data visualization:** Matplotlib, ggplot2, ChimeraX, Pymol & Pymol Scripting.
Document manipulation	• LaTeX, Adobe Illustrator, Obsidian, Markdown.
Additional skills	• (Agile) Project Management Basics, Public Speaking & Science Communication.

WORK EXPERIENCE

04/21 - 12/25 (expected)	**Doctoral Researcher | Computational Biology** Institute of Molecular Biology (IMB), Mainz	*Mainz, Germany*

- Developed a robust protocol for processing and integration of bulk-RNA Seq datasets; integrated and analyzed multi-omics data (genomics, transcriptomics, interactomics, structural proteomics and comparative genomics) and pinpointed top candidate disease-associated genes.
- Developed the code to optimize AlphaFold2 interaction-interface prediction workflows on IMB's HPC cluster, improving scalability and tripling efficiency for institute-wide use.
- Developed the code for real-time monitoring of HPC cluster resource usage; currently building a machine learning model to improve accurace of estimated resource-need and further increase efficiency.
- Coordinated collaboration within an interdisciplinary team (computational and wet-lab) across multiple projects.
- **Keywords**: Multi-omics, Systems Biology, Disease Mechanisms, Complex Diseases, Neurobiology.

EDUCATION

04/21 - 12/25 (expected)	**PhD in Computational Biology** Johannes Gutenberg University	*Mainz, Germany*

- "Investigating Molecular Mechanisms of Brain-Specificity in Neurodevelopmental Disorders through Integrative, Systems Biology."

09/19 - 03/20	**MSc in Human Molecular Genetics** Vinča Institute of Nuclear Sciences	*Belgrade, Serbia*

- Awarded National Scholarship for Best Master Students of Republic of Serbia - "Dositeja" by the Ministry of Youth and the Young Talents Fund
- Average grade: 10.00 (out of 10.00)

07/18 - 09/18	**International Undergraduate Summer School** Gulbenkian Institute of Science	*Oeiras, Portugal*

- Attended on a full fellowship

10/15 - 09/19	**BSc in Molecular Biology** University of Belgrade	*Belgrade, Serbia*

- Awarded National Scholarship for Best Bachelor Students of Republic of Serbia - "Dositeja" by the Ministry of Youth and the Young Talents Fund
- Average grade: 9.68 (out of 10.00)

PUBLICATIONS

2026 (expected)	• 1st Author Publication: "Molecular mechanisms of brain-specificity in neurodevelopmental disorders."
2026 (expected)	• Collaborative Publication (2nd Author): D. Hubrich et al. "Variant characterization in the intrinsically disordered human proteome." Nature Structural & Molecular Biology.
2024	• Collaborative Publication (5th Author): C. Lee et al. "Systematic discovery of protein interaction interfaces using AlphaFold and experimental validation." Molecular Systems Biology.

SELECTED CONFERENCES

07/23	**Intelligent Systems For Molecular Biology (ISMB) /** **European Conference on Computational Biology (ECCB)**	*Lyon, France*

- Poster presentation

11/22	**From functional genomics to systems biology** European Molecular Biology Laboratory (EMBL)	*Heidelberg, Germany*

- Poster presentation

MENTORING

06/23 - 08/23	• Primary supervisor of International Summer School (ISS) student.	*Mainz, Germany*
09/21 - 10/22	• Primary supervisor of a Master Student at the IMB.	*Mainz, Germany*

PERSONAL INTERESTS

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