UNIVERSITY OF NOVI SAD

FACULTY OF TECHNICAL SCIENCES

Dear Admissions Committee,

I am delighted to support the application of Teodora Nedic for the IBM 2022 Great Minds Internship.

I met Teodora during her third year of studies in the summer semester of the 2019/2020 school year. She was my student in the course *Oral and Written Communication Skills in Technical Disciplines*. My students had to master "soft" skills for efficient and successful professional communication by working in a team. They also had to acquire the necessary skills for academic writing, research presentation, and reference scientific literature. Teodora demonstrated the ability to write impressive scientific reports and engage in presentations. She completed all the given tasks within strictly set deadlines.

I also had the pleasure of teaching Teodora in her fourth year of studies. In the first semester of the fourth year, she attended a course in *Soft Computing*. The course curriculum consisted of the theoretical foundations of image and sound processing and machine learning. Students had to demonstrate their gained knowledge on a practical problem of their choice in the final project. Teodora chose to work on a complex project in a team of three members. They completed the tasks of recognizing genres and emotions in music tracks by using sound preprocessing techniques and defining a neural network architecture. Teodora showed that she cooperates very well with other team members and takes the leadership role when necessary.

During the winter semester of the 2020/2021 school year, Teodora attended the course in *Machine Learning*. The students had to master the concepts and techniques of machine learning through a series of graded practical tasks, which had to be solved in a limited amount of time. The tasks included the fundamental problems of machine learning: regression, classification, clustering, dimensionality reduction. Teodora quickly applied the acquired theoretical knowledge and was consistent in solving each given problem. She researched additional literature and used complex machine learning algorithms, which brought excellent results on each given task.

Teodora also expanded the *Soft Computing* project for her bachelor's thesis, which I had the pleasure of supervising. She focused on music emotion recognition and explored different approaches to extracting sound features based on which she defined fitting neural network architectures and implemented a system that uses them to recognize emotions in music successfully. In her thesis, she described the theoretical foundations, the techniques of working with sound data, and the optimization of neural network models. She also discussed the obtained results and possible future improvements. During the defense of her thesis, she analytically presented and explained her work, showing excellent presentation skills, and creativity and innovation in designing her presentation. Thus, through the bachelor's thesis, Teodora showed the ability to research the scientific literature, perform experiments and interpret and discuss the obtained results.

During my acquaintance with Teodora, she proved to be a devoted student. She has a profound understanding of various fields of artificial intelligence and has a great motivation for further learning. She also demonstrates the ability to work efficiently in a team. Therefore, I firmly believe that she is the right person for your program, and I wholeheartedly recommend her. If you have any further questions, do not hesitate to contact me using my contact information.

Kind regards,

Dr. Jelena Slivka

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