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DEPARTMENT OF
COMPUTER
SCIENCE

To Whom It May Concern:

Dr SASHA RUBIN

I am pleased to herewith have the opportunity to write in support of the application of Dr Sasha Rubin for a position in your university.

> *In summary, I give this application my wholehearted support. Sasha is an highly motivated, extremely active researcher, with a superb technical grasp of issues in logic, verification, game theory, and automata. He will, I am sure go on to have an excellent academic career, and I give him my full support.*

In more detail, Sasha gained his PhD in 2004, for research in logic and model theory, with applications in verification and automated reasoning. His PhD was technically accomplished, making genuine new advances which he continued to develop in the years following his PhD. For more a less a decade after his PhD, he worked in the theory of verification and concurrency, where he established a name for himself with a series of impressive accomplishments such as the theory of automatic structures. During this time he worked with a starry array of leading international authors, including Krishnendu Chatterjee, Moshe Vardi, and Helmut Veith.

More recently, since about 2014, he has worked in areas close to my own – logic, game theory, and multi-agent systems. In this time he has been in the group of Nello Murano in Naples. His time at Naples has been extraordinarily productive, with a string of impressive papers emanating from this group, published in the very best international conferences and journals. He came to my attention in 2015, when I began to be aware of the work of the Naples group. Earlier this year we were delighted to collaborate on a paper on the complexity of Nash equilibria in concurrent games with quasi-dichotomous preferences. The main result in the paper is a 2EXPTIME algorithm for the core problem (checking for the existence of a Nash equilibrium computation that satisfies a Buchi acceptance condition). Sasha's contribution to the proof was absolutely central, and absolutely essential: the proof is complex, and borrows technical constructions from a range of different areas including folk theorems from game theory and linear programming constructions from the theory of optimization. The paper was published at IJCAI-17, a leading conference in AI. The collaboration left me with a

very strong personal impression of Sasha as a serious and capable researcher, with an appetite for challenging problems.

Evidence of Sasha's success as a researcher is amply demonstrated by his publication record. He has amassed an *extremely* impressive profile of publications, including 5 at LICS (the main venue for Logic in Computer Science), 5 at IJCAI (leading AI venue), as well as papers at leading theory venues such as ICALP and STACS, and leading verification venues such as CAV. He has also published a book, and has a string of journal papers in leading venues such as *Information and Computation, Logical Methods in Computer Science, ACM Transactions on Computational Logic, and Theoretical Computer Science.* Overall, the publication record is simply first-rate. This record is confirmed by his increasing number of invited talks at conferences and workshops.

Finally, I note Sasha has successful experience applying for research grants, and in supervising PhD students.

In summary, I again emphasise I believe Sasha is an extremely capable researcher, with an excellent track record, showing excellent promise for the future. He should be an ideal candidate for an academic position at any leading university, and I recommend him to you wholeheartedly.

I trust that this evaluation meets with your requirements. Please do not hesitate to contact me if you require clarification or have any queries at all.

Yours sincerely,

Michael Wooldridge
Professor and Head of Department of Computer Science