To: BSF 9 November 2016

RE: BSF proposal number 2016141

To whom it may concern:

I am very excited to collaborate with Prof. Brendan Juba on the proposed research project aimed at developing a model-and-data driven reasoning approach for automated planning and automated diagnosis. This approach merges two schools of thought in AI and I look forward to collaborating on this with Prof. Juba.

Brendan and I have met in 2013 when we were both post-docs at Harvard. During that time, both of us recognized the great potential of collaborating with each other, as our expertise and past experience complement each other – Brendan is an expert on data-driven methods and learning theory while my research has mostly been on model-based reasoning and heuristics search. However, the focus of my post-doc ended up in a different topic (AI for healthcare) and thus we were not able to realize on that potential for collaboration. Nonetheless, I remembered out discussions and have continued to meet Brendan from time to time in general-purpose AI conferences, looking for potential research projects that are of joint interest.

When I met Brendan during the last AAAI conference, I was excited to learn that he has been working on data-driven planning and data-driven abductive reasoning, as I have been working on related topics, but from a different algorithmic approach.

Importantly, while my work has mainly been on developing and evaluating algorithms for these problems that are model-based, Brendan's work has focused on the theoretical aspects of solving these problems and have focused on the data-driven approach for it. To exploit our complementary strengths, Brendan will focus on the learning task – learning PAC semantic rules for planning and for diagnosis, while I will focus on incorporating these rules into planning and diagnosis algorithms. Moreover, the empirical comparison of the proposed algorithms will be led by my group, while the theoretical analysis will be led by Brendan's group.

I am highly committed to this joint research and looking forward to developing this collaboration, which I hope will carry on for many years, even beyond the current research project.

Sincerely

Roni Stern