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School of Computer Science,
Institute for Research in Fundamental Sciences (IPM),
Farmanieh Campus, No. 70
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Research Supervisor,

I am writing to recommend Dr. Hadi Hajari for a Postdoctoral Researcher position in the The Grainger College of Engineering at the University of Illinois. I have known Hadi for several years and have been impressed by his hard work and zeal. I came to know Hadi after he asked me to be on his Comprehensive committee because my interest in hybrid control of robotic swarms bore more relation to his emerging dissertation topic involving ride sharing than the research interests of others in our department. As Hadi's primary expertise lay in the study of geographic information systems (GIS), I chose Bullo, Cortes, & Martinez's Distributed Control of Robotic Networks as a primary reading to help him consider his problem from a robotics perspective. We met frequently as he worked his way through the book, and I was impressed by his perseverence and focus on extracting ideas that might be applied to the ride sharing problem.

After completing his Comprehensive exam, Hadi asked me to continue working with him by joining his dissertation committee to which I agreed. As a member of his committee I witnessed both growth and persistence as he confronted practical, computational, and conceptual problems. Hadi envisioned a distributed solution to the ride sharing problem by clustering vehicles with similar descriptors (location, routes, etc.), allocating riders to matching clusters, and using a within cluster bidding process to match riders to vehicles. Because this process needs to be accomplished in realtime, efficiency as well as approximation to optimality were crucial. Clustering methods and cluster size were the crux of the problem as smaller clusters lead to faster parallel computations while larger clusters offer better solutions.

A recurring issue lay in benchmarking an approach that did not have a direct correspondence to problems in the existing literature. Fortunately, Zach Rubinstein, a scheduling researcher from CMU, well versed in this area, was on our committee and helped guide and critique Hadi's efforts to a successful conclusion.

As a psychologist with a research focus on human supervision of autonomous teams I can comment primarily on Hadi's character, work habits, and collegeality rather than the novelty and contribution of his research. In our work together Hadi has always been punctual, reliable, and prepared to put in whatever effort was required. He interacted professionally and empathetically with his committees, and I would expect him to perform well in a team research environment as a leader, contributor, or follower.

Sincerely,

Michael Lewis

Professor, School of Computing and Information