UNIVERSITY of VIRGINIA

SCHOOL of ENGINEERING
& APPLIED SCIENCE

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To whom it may concern,

It is my pleasure to give my highest recommendations to Alan Wang for the *Data Science for the Public Good internship program* led by the Institute's Social and Decision Analytics division. Since Alan joined my research group, he has shown an exceptional level of hard work, dedication, leadership, and scholarly attitude.

Alan is a proactive, creative, and hard-working researcher. His curiosity drives him into exploring ideas at a deep level, but at the same time, he keeps the project progress on track with respect to the deadlines and deliverables. In most of his pursuits, Alan strives for a more comprehensive understanding of his tasks. I see this in his development of the low-level software that interfaces with hardware and networking to collect sensor data, to the development of high-level analysis and research-oriented questions. I think it is this same curiosity that drives him to explore wide-ranging topics such as augmented reality interfaces, to health monitoring of energy harvesting sensors using building architecture elements with representation learning. The explorations have led Alan to gain skill sets and recognition in: commercialization (awarded the NSF Innovation Corp site grant, twice), software and hardware development (filed for a provisional patent with UVA LVG), writing (NSF Graduate Research Fellowship Program Honorable Mention), and presentations (Second place in the NSF Cyber-Physical Systems Graduate Student Presentations).

Specifically in his research Alan has designed, implemented, and is currently leading the maintenance and development of an in-house end-to-end smart building research platform called the Living Link Lab. This platform automates everything from user survey deployment to device actuation to sensor dashboard generation, but more importantly, the Living Link Lab allows UVA researchers to customize all aspects of the human building interaction pipeline to explore different nuanced research subfields such as choice architecture. Additionally, Alan has completed the implementation and deployment of an environmental quality monitoring system in the UVA hospital. After maintaining the system for a year, Alan compiled a patients' sleep, medical events, and environmental factors from the dataset, and is currently working on developing predictive models to impute missing information to predict sleep disruptions to assist caregivers in improving the sleep quality of their patients.

In summary, Alan is an exceptional researcher, thinker, doer that will undoubtedly improve any organization lucky enough to have him. Based on his past design, engineering, research, and

leadership experience, I cannot see a better candidate for the *Data Science for the Public Good internship* than Alan. Should you need any additional information, do not hesitate to contact me at ah6rx@virginia.edu or 540-383-6422.

Sincerely,

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Dr. Arsalan Heydarian