

September 24<sup>th</sup>, 2023

## **Report on Attendance at the hEART 2023 Conference in Zurich, Switzerland**

To: The Israeli Smart Transportation Research Center (ISTRC)

I am writing to report on my recent attendance at the 11<sup>th</sup> symposium of the European Association for Research in Transportation (hEART) conference held in Zurich, Switzerland. I would like to express my gratitude to the ISTRC for providing me with the funding to attend this significant event.

hEART is renowned for its commitment to promoting excellence in transportation research, particularly within Europe. It serves as a vital platform for the exchange of information, ideas, and methodologies among transportation researchers, especially with a focus on promoting the growth and development of PhD students and young researchers.

Before the conference, I attended the Biogeme Users' Meeting organized by Professor Michel Bierlaire, the developer of the Biogeme python package widely used for estimating discrete choice models. This meeting was especially beneficial for me since I utilize this software as a part of my research. The event offered an invaluable opportunity to directly interact with both the developer and fellow users.

During the conference, I had the privilege of presenting my research titled "Incorporating Domain Knowledge in Deep Neural Networks for Mode Choice Analysis". In this work, I developed a methodology to incorporate domain-knowledge in the form of constraints on the direction of effect of various variables on choice probabilities into machine learning approaches to discrete choice modeling. The presentation was well-received, and I engaged in numerous productive discussions with fellow researchers and professionals who showed interest in my work. It was met with insightful feedback and constructive critiques that I believe will prove beneficial in the further development and refinement of my research. Being surrounded by leading minds in transportation research, both young and experts, provided a rich environment for learning and collaboration.

One of the main highlights of the hEART conference was its focus on supporting PhD students and new researchers. I got to meet both new researchers and experienced experts during networking events and special sessions. We talked about our ideas, shared common problems, and thought of ways to solve them. This was really helpful and important to me.

In conclusion, my attendance at hEART 2023 was an enriching experience, both personally and professionally. I am confident that the knowledge and connections gained at the conference will contribute to the advancement of my research and the overall mission of the ISTRC.

Once again, I would like to thank the ISTRC for their generous support.

Sincerely,  
Shadi Haj Yahia