



主题简介 Abstract

从微出行到汽车: 弥补多式联运中的缺失环节

From Micromobility to Cars: Addressing the Missing Links in Multimodal Transportation

共享多式联运是最有可能缓解交通拥堵,同时满足对城市交通不断增长的需求的解决方案。然而,与公共汽车和铁路相连的短程模式,即共享汽车、踏板车、自行车、轻便摩托车,对于车队运营商来说经济性和效率仍然较低。通过麻省理工学院 Senseable City Lab 和Superpedestrian 的开发成果,Assaf 和他的同事开发出一套以人工智能和机器学习为基础的新技术,来解决这些问题。包括车辆自动维护和主动安全系统、先进车辆调度算法和预测管理软件在内的解决方案旨在显著提高安全性,并降低共享汽车服务的运行成本。这些系统还为城市提供远程管理软件工具,以便将多种交通方式可持续、无缝整合至城市交通网络中。

Shared multimodal transportation holds the greatest potential to alleviate traffic congestion and address the ever increasing demand for urban mobility. However, shorter-range modes that connect with bus and rail – shared cars, scooters, bikes, mopeds – are still uneconomical and inefficient for fleet operators to deploy. Through developments at the MIT Senseable City Lab and Superpedestrian, Assaf and his colleagues have developed new technologies driven by Al and machine learning to address these problems. Solutions, including autonomous maintenance and active safety systems for vehicles, advanced vehicle dispatch algorithms, and predictive management software, are designed to dramatically improve safety and reduce the cost of running shared vehicle services. These systems also provide cities with remote management software tools to sustainably integrate multiple modes of transportation into a seamless urban transit network.





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Assaf Biderman

Assaf Biderman 是一位企业家、作家和技术发明家。他是Superpedestrian 公司的创始人及首席执行官。这家机器人公司主要开发小型电动汽车共享使用平台。Assaf 与Superpedestrian 公司团队一起开发了一系列具有自主维护功能和主动安全系统的踏板车、电动自行车及其他微型车辆。此类产品可实现 更安全、更具成本效益的共享出行服务。此外,Assaf 还是麻省理工学院可感知城市实验室的副主任和创始成员。该实验室是一个开发大数据、机器学习和机器人技术的研究小组,旨在提高城市的宜居性。他负责督导城市传感、数据融合和城市交通领域的研究,同时领导实验室与城市和私营部门的各种合作伙伴关系计划。Assaf 拥有物理学和设计专业背景。他现持有150多种专利及发表著作,并曾获得众多国际性奖项,包括红点之星奖、《时代》杂志奖、托马斯·爱迪生专利奖和詹姆斯·戴森设计奖等。

Assaf Biderman is an entrepreneur, author and technology inventor. He is the founder and CEO of Superpedestrian, a robotics company that develops platforms of small electric vehicles for shared use. Together with the team at Superpedestrian, Assaf has developed fleets of scooters, e-bikes and other micro-vehicles with autonomous maintenance capabilities and active safety systems that enable much safer and cost-effective shared mobility services. Assaf is also the associate director and founding member of the MIT Senseable City Lab, a research group which develops technologies in big data, machine learning and robotics aimed at improving liveability in cities. He has supervised research in areas of urban sensing, data fusion and urban transportation, and also leads lab partnership initiatives with cities and the private sector. Assaf has a background in physics and design. He holds over 150 patents and publications, and has been honoured with multiple international awards including the Red Dot Luminary, Time Magazine, Thomas Edison and James Dyson awards.