

1. Record Nr.	UNINA9910864195103321
Autore	Rao K. Ramachandra
Titolo	Traffic and Granular Flow '22
Pubbl/distr/stampa	Singapore : , : Springer, , 2024 ©2024
ISBN	9789819979769 9789819979752
Edizione	[1st ed.]
Descrizione fisica	1 online resource (518 pages)
Collana	Lecture Notes in Civil Engineering Series ; ; v.443
Altri autori (Persone)	Seyfried Armin SchadschneiderAndreas
Disciplina	388.41
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	<p>Intro -- Preface -- Contents -- About the Editors -- Part I Pedestrian Dynamics -- Collective traffic of agents that remember -- 1</p> <p>Introduction -- 2 Model for traffic dynamics -- 3 Results and Discussion -- 4 Conclusion -- Acknowledgements -- References -- "Nudging" crowds: When it works, when it doesn't and why -- 1</p> <p>Introduction -- 2 Related works -- 3 Experiments and results -- 4</p> <p>Summary and discussion -- 5 Conclusions -- References -- Revisiting the theoretical basis of agent-based models for pedestrian dynamics -- 1</p> <p>Introduction -- 2 Cognitive processes and mechanical layer -- 3</p> <p>Articulation between the operational dynamics and the tactical level -- 4</p> <p>Brief presentation of the ANDA model and numerical simulations -- 5</p> <p>Conclusion -- References -- An emergency evacuation model for avoiding high nuclide concentration areas in nuclear accident -- 1</p> <p>Introduction -- 2 Model Description -- 3 Application and Conclusion -- References -- Shoulder rotation measurement in camera and 3D motion capturing data -- 1 Introduction -- 2 Methods -- 3 Application -- 4 Discussion and conclusion -- References -- Methods of density estimation for pedestrians moving in small groups without a spatial boundary -- 1 Introduction -- 2 Experimental details -- 3 Estimating pedestrian density along a pedestrian trajectory -- 4 Voronoi method -- 5 Discussion and conclusion -- References -- A review of entropy-</p>

based studies on crowd behavior and risk analysis -- 1 Introduction -- 2 Explicit and Implicit methods of crowd risk prediction -- 3 Entropy -- 4 Future trends -- 5 Conclusion -- References -- Understanding the difference in social group behaviour of a spiritually motivated crowd and a general crowd -- 1 Introduction -- 2 Study Area, Data Collection and Data Extraction -- 3 Data Analysis and Results -- 4 Conclusion and Discussion -- References.

Mass evacuation planning based on mean field games theory -- 1 Introduction -- 2 Methodology -- 3 Conclusion and future work -- References -- Experimental study of bidirectional pedestrian flow in a corridor with certain height constraint -- 1 Introduction -- 2 Experiment setup -- 3 Results -- 4 Conclusions -- References --

Crowd Dynamics of a Rural Group in a Mass Religious Gathering: A Case Study of Kumbh Mela - 2016, India -- 1 Introduction -- 2 Study Design and Data Collection -- 3 Data Analysis and results -- 4 Summary and Conclusions -- References -- Modeling of obstacle avoidance by a dense crowd as a Mean-Field Game -- 1 Introduction -- 2 The Mean-Field Games model -- 3 Conclusion -- References -- Two types of bottlenecks in leisure facilities: bottlenecks caused by attractiveness and structural layout -- 1 Introduction -- 2 Case study: Kaiyukan -- 3 Experiment settings -- 4 Results -- 5 Conclusion --

Acknowledgments -- References -- Face-validation of a route-choice module in a crowd simulator for confined indoor spaces in context of the COVID-19 pandemic -- 1. Introduction -- 2. Related work -- 3. A short recap on the route choice module of NOMAD -- 4. Validation analysis and method -- 5. Validation results and discussion -- 6. Conclusions -- Acknowledgements -- Reference -- On the Influence of Group Social Interaction on Intrusive Behaviours -- 1 Introduction and Objectives -- 2 Related Work -- 3 Data Set -- 4 Trajectory Deviation and Intrusion -- 5 Results and Discussion -- 6 Conclusion --

Acknowledgment -- References -- Sound Guidance on Evacuation under Limited Visibility: an Experimental Study -- 1 Introduction -- 2 Experimental set-up -- 3 Results -- 4 Conclusions -- References -- Pedestrian Kernel Density Estimates: the Individual Approach -- 1 Introduction -- 2 Individual Concept Definition -- 3 Importance of Being Local.

4 Impact of Range and Surroundings Shape on the Indiv. Density -- 5 Elliptic Correspondence to Sectors -- 6 Conclusions -- References -- Density dependence of stripe formation in a cross-flow -- 1

Introduction -- 2 Experimental setting -- 3 Relative position of first neighbours -- 4 Order parameter: definition -- 5 Order parameter: results -- 6 Conclusions -- References -- Estimation of pedestrian crossing intentions in in-vehicle video -- 1 Introduction -- 2 3D-CNN -- 3 Joint Attention in Autonomous Driving (JAAD) Dataset -- 4

Proposed framework -- 5 Experiments -- 6 Conclusion -- References -- Particle method for macroscopic model of coupled pedestrian and vehicular traffic flow -- 1 Introduction -- 2 Model -- 3 Numerical

Method -- 4 Results -- 5 Discussion and Conclusion -- References -- Study of emergency exit choice behaviour at metro stations in fire evacuation -- 1 Introduction -- 2 Stated Choice Experiment -- 3 Exit

Choice Models -- 4 Results -- 5 Conclusions -- References -- A Non-linear Pedestrian Tracker Using Velocity-adaptive Particle Filter With Trajectory Analysis -- 1 Introduction -- 2 Methods -- 3 Results and

Discussion -- 4 Conclusion -- References -- Wheelchair and phone use during single file pedestrian movement -- 1 Introduction -- 2 Materials and methods -- 3 Results and Discussion -- 4 Conclusion -- References -- Modelling pedestrian collective dynamics with port-Hamiltonian systems -- 1 Introduction -- 2 Port-Hamiltonian

pedestrian model -- 3 Simulation results -- 4 Discussion and model development perspectives -- References -- Experimental study of pedestrian crossing mechanism in crowds -- 1 Introduction -- 2 Experimental setup -- 3 Crossing Trajectory -- 4. Crossing Mechanism in the Crowd -- 5 Conclusions -- Acknowledgments -- References: -- Public-space sonification for pedestrian trajectory nudging -- 1 Introduction.

2 Sonification -- 3 Experimental setup -- 4 Results -- 5 Discussion -- References -- How do Retail Stores Affect Pedestrian Walking Speed: An Empirical Observation -- 1 Introduction -- 2 Method -- 3 Results -- 4 Discussion and Conclusion -- References -- A psychological approach to understanding microscopic and macroscopic structures during train boarding processes -- 1 Introduction -- 2 Variance Decomposition Method -- 3 Results -- 4 Discussion and Conclusion -- References -- Empirical comparison of different pedestrian trajectory prediction methods at high densities -- 1 Introduction -- 2 Methodology -- 3 Results -- 4 Conclusion -- References -- Reusable software structures for coupling agent-based locomotion models and disease transmission models -- 1 Introduction -- 2 Materials and methods -- 3 Results and discussion -- 4 Conclusion -- References -- Part II Granular and Active Matter -- A closed network of RNA polymerase flow models for analyzing intracellular transport -- 1 Introduction -- 2 Mathematical model -- 3 Main Results -- 4 Conclusion -- Appendix -- References -- Modified version of open TASEP with dynamic defects -- 1 Introduction -- 2 Model description -- 3 Naive-mean field approximations for continuum equations -- 4 Steady-state analysis -- 5 Conclusion -- References -- Part III Cities, Vehicular Traffic and Other Transportation Systems -- Oscillation growth in mixed traffic flow of human driven vehicles and automated vehicles: Experimental study and simulation -- 1 Introduction -- 2 Experimental setup -- 3 The controllers of AV -- 4 Experimental results -- 5 Simulation study -- 6 Conclusion -- References -- Modelling the Influence of Amber Light Dilemma Zone on Driver Behaviour Under Mixed Traffic Conditions -- 1 Introduction -- 2 Literature Review -- 3 Data Collection and Extraction -- 4 Data analysis -- 5 Model development. 6 Conclusions -- 7 Limitations and future scope -- References -- Optimal Design of Battery, Charging Infrastructure Planning, and Charging Scheduling for Electric Bus Network -- 1 Introduction -- 2 Literature Review -- 3 Methodology -- 4 Case Study -- 5 Results and Discussion -- 6 Conclusion -- References -- The Impact of Vehicular Heterogeneity on the Rear-end Crash Risk in Mixed Traffic: An Extreme Value Approach -- 1 Introduction -- 2 Data Description -- 3 Methodology -- 4 Results and Discussion -- 5 Conclusion -- References -- A Comprehensive Review of Car-Following Models: Heterogeneous Non-Lane-Based Traffic Viewpoint -- 1 Introduction -- 2 Car-Following Models for Mixed Traffic Environment -- 3 Research Gap and Discussion -- References -- Travel path tracking using smartphone inertial sensors: an experimental study on an academic campus road network -- 1 Introduction -- 2 Data collection and description -- 3 Methodology -- 4 Results -- 5 Conclusions -- References -- The intelligent agent model - a fully two-dimensional microscopic traffic flow model -- 1 Introduction -- 2 Model specification -- 3 Simulation and validation of lane-based and lane-free scenarios -- 4 Discussion -- References -- Modelling Impact of Lateral Behaviour of Successive Vehicleson Traffic Safety for Regular and Work-Zone Roads -- 1 Introduction -- 2 Methodology -- 3 Literature Review -- 4 Data Analysis -- 5 Modelling Lateral Behaviour. -- 6 Conclusions -- References -- Stochastic Optimal Velocity Model

With Two Vehicle Control Methods -- 1 Introduction -- 2 Regular vehicles in the SOV model -- 3 Controlled vehicles in the C-SOV model -- 4 Simulations -- 5 Conclusion -- Acknowledgment -- References -- Machine Learning Approach for Modeling the Lateral Movement Decisions of Vehicles in Heterogeneous Traffic Conditions -- 1 Introduction -- 2 Literature Review. 3 Methodology.
