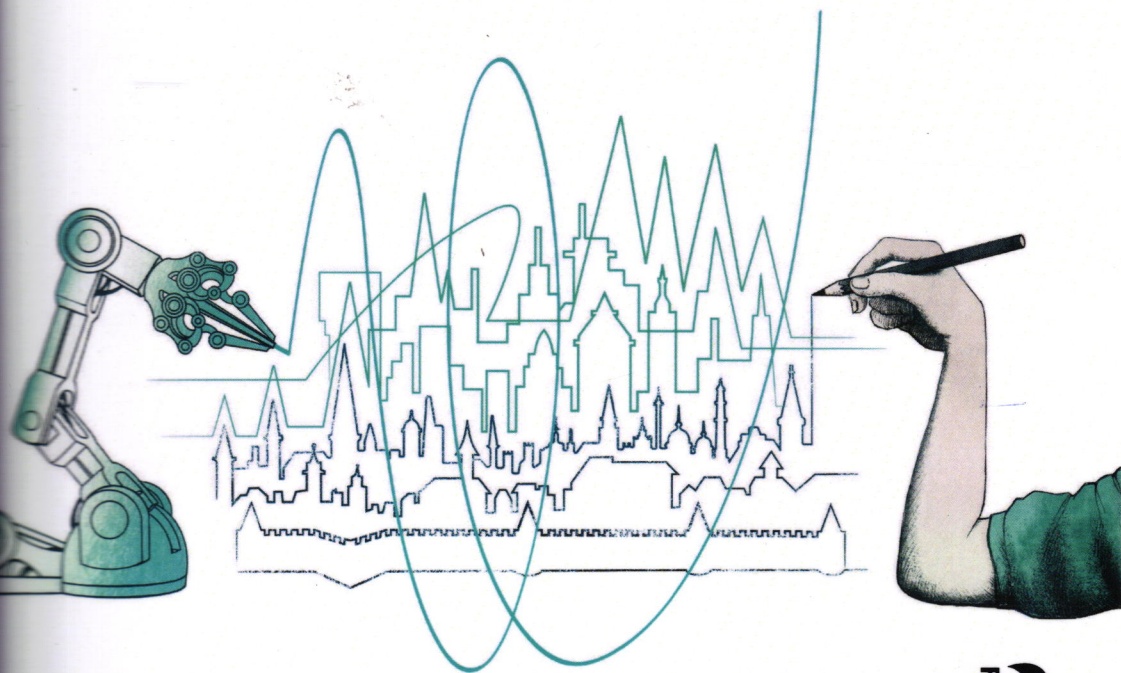


18

# ARTIFICIAL INTELLIGENCE AND THE CITY

Urbanistic Perspectives on AI

EDITED BY FEDERICO CUGURULLO,  
FEDERICO CAPROTTI, MATTHEW COOK,  
ANDREW KARVONEN, PAULINE M<sup>c</sup>GUIRK  
AND SIMON MARVIN



ROUTLEDGE

Designed cover image: Eleonora Casetta

First published 2024

by Routledge

4 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge

605 Third Avenue, New York, NY 10158

*Routledge is an imprint of the Taylor & Francis Group, an informa business*

© 2024 selection and editorial matter, Federico Cugurullo, Federico Caprotti, Matthew Cook, Andrew Karvonen, Pauline M<sup>c</sup>Guirk and Simon Marvin; individual chapters, the contributors

The right of Federico Cugurullo, Federico Caprotti, Matthew Cook, Andrew Karvonen, Pauline M<sup>c</sup>Guirk and Simon Marvin to be identified as the authors of the editorial material, and of the authors for their individual chapters, has been asserted in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

*Trademark notice:* Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

*British Library Cataloguing-in-Publication Data*

A catalogue record for this book is available from the British Library

ISBN: 978-1-032-43147-5 (hbk)

ISBN: 978-1-032-43146-8 (pbk)

ISBN: 978-1-003-36587-7 (ebk)

DOI: 10.4324/9781003365877

Typeset in Sabon

by SPi Technologies India Pvt Ltd (Straive)

# CONTENTS

<i>List of figures</i>	<i>xi</i>
<i>List of tables</i>	<i>xiii</i>
<i>Editors</i>	<i>xiv</i>
<i>List of contributors</i>	<i>xvi</i>
1 Introducing AI into urban studies <i>Federico Cugurullo, Federico Caprotti, Matthew Cook, Andrew Karvonen, Pauline M<sup>c</sup>Guirk and Simon Marvin</i>	1
<b>PART I</b>	
<b>Autonomous vehicles and mobility</b>	<b>21</b>
2 Reinforcing and refracting automobility: urban experimentation with autonomous vehicles <i>Robyn Dowling, Pauline M<sup>c</sup>Guirk and Alistair Sisson</i>	23
3 Trials and tribulations: who learns what from urban experiments with self-driving vehicles? <i>Jack Stilgoe and Cian O'Donovan</i>	38
4 Autonomous lorries, artificial intelligence and urban (freight) mobilities <i>Debbie Hopkins</i>	53

- 5 An urbanistic take on autonomous vehicles 69  
*Federico Cugurullo and Eva Kassens-Noor*
- 6 A roadmap for the sustainable deployment of  
autonomous vehicles: superblocs driving cars out of  
neighbourhoods 80  
*Elisabetta Vitale Brovarone and Luca Staricco*

**PART II**

**Urban robots and robotic spaces 97**

- 7 Regulating and making space for the expanded field of  
urban robotics 99  
*Aidan While*
- 8 Everyday droning: uneven experiences of drone-  
enabled AI urbanism 114  
*Anna Jackman*
- 9 Exploring temporal pleats and folds: the role of urban  
AI and robotics in reinvigorating the cyborg city 136  
*Miguel Valdez, Matthew Cook and Stephen Potter*
- 10 Robots in AI urbanism 155  
*Shanti Sumartojo*
- 11 Airport robots: automation, everyday life and the  
futures of urbanism 169  
*Weiqiang Lin and Si Jie Ivin Yeo*

**PART III**

**City brains and urban platforms 187**

- 12 Ambient commons? Valuing urban public spaces  
in an era of AI-enabled ambient computing 189  
*Sarah Barns*

13	Encountering limits in cooperative platforms: the more-than-technical labour of urban AI <i>Adam Moore and David Bissell</i>	205
14	Performed imaginaries of the AI-controlled city: conducting urban AI experimentation in China <i>Bei Chen</i>	223
15	Optimizing the immeasurable: on the techno-ethical limits of predictive policing <i>Aaron Shapiro</i>	240
16	Chinese artificial intelligence governance platforms 2.0: the belt and road edition <i>Alan Smart, Yawei Zhao and Dean Curran</i>	258
<b>PART IV</b>		
<b>Urban software agents and algorithms</b>		<b>275</b>
17	Perceptions of intelligence in urban AI and the contingent logics of real estate estimate algorithms <i>Casey R. Lynch and Vincent J. Del Casino Jr.</i>	277
18	Caring is connecting: AI digital assistants and the surveillance of elderly and disabled family members in the home <i>Miriam E. Sweeney</i>	292
19	AI doctors or AI for doctors? Augmenting urban healthcare services through artificial intelligence <i>Zongtian Guo and Federico Cugurullo</i>	307
20	Algorithms and racial discrimination in the US housing market <i>Eva Rosen and Philip Garboden</i>	322
21	Architectural AI: urban artificial intelligence in architecture and design <i>Davide Pisu and Silvio Carta</i>	339



x Contents

22 Conclusions: the present of urban AI and the future  
of cities 361  
*Federico Cugurullo, Federico Caprotti,  
Matthew Cook, Andrew Karvonen, Pauline M<sup>c</sup>Guirk  
and Simon Marvin*

*Index* 390