



Advancing Smart Urban Futures in the Healthcare Sector

Vitor Alves^{1,2,3} , Goreti Marreiros⁴ , Florentino Fdez-Riverola^{2,3} ,
José Neves^{5,6} , Jorge Ribeiro¹ , and Henrique Vicente^{5,7}

¹ ADiT-LAB, Instituto Politécnico de Viana do Castelo, Viana do Castelo, Portugal
{vitoralves, jribeiro}@estg.ipv.pt, riverola@uvigo.es

² Department of Computer Science, ESEI – Escuela Superior de Ingeniería Informática,
CINBIO, Universidade de Vigo, 32004 Ourense, Spain

³ SING Research Group, Galicia Sur Health Research Institute (IIS Galicia Sur),
SERGAS-UVIGO, Vigo, Spain

⁴ Departamento de Engenharia Informática, Instituto Superior de Engenharia do Porto, Porto,
Portugal

goreti@dei.isep.ipp.pt

⁵ Centro Algoritmi/LASI, Universidade do Minho, Braga, Portugal
jneves@di.uminho.pt, hvicente@uevora.pt

⁶ Instituto Politécnico de Saúde do Norte, CESPU, Famalicão, Portugal

⁷ Departamento de Química e Bioquímica, Escola de Ciências e Tecnologia,
REQUIMTE/LAQV, Universidade de Évora, Evora, Portugal

Abstract. As urban development stands on the brink of a new epoch, the imperative exploration of artificial intelligence, logic programming, and entropy demands visionary planning, ethical conduct, and a deep appreciation of their far-reaching impact when synergized within smart city frameworks. This study delves into the complex relationship between artificial intelligence, logic programming, and entropy, highlighting their pivotal role in advancing smart cities towards operational excellence and evolutionary success. By harnessing artificial intelligence's understanding of human emotions and sentiments, urban centers are redefining city living. Employing cutting-edge technologies not only empowers healthcare innovation but also improves city planning, public safety, transit systems, and environmental management, significantly enhancing the quality of life for citizens. The key finding of this study underscores the importance of addressing challenges inherent in such integration, particularly in healthcare, leading to a high degree of citizens' wellbeing.

Keywords: Artificial Intelligence · Logic Programming · Entropy · Smart Cities · Urban Life · Sentiments and Feelings · Healthcare · Citizens Wellbeing