

Curriculum Vitae - Professor Jonathan Jun Li

Following an early career with the National Research Institute of Surveying and Mapping in China in the 1980s where he conducted research related to satellite geodesy and geospatial intelligence, Professor Li went to Munich, Germany as a Visiting Scholar in the Institute of Geodesy and Navigation at the Universität der Bundeswehr München (UniBwM) in 1992. He moved to Cape Town, South Africa in 1995 to start his doctoral studies under the supervision of Prof. Heinz Ruther (Fellow of the Academy of Science of South Africa) in the Department of Geomatics at the University of Cape Town. He became involved with the very first efforts related to the development and use of airborne small-format non-metric digital camera and high-definition (HD) map technologies for mapping building rooftops in 2D/3D of urban informal settlements or shanty towns. He was a project manager of the Emoyeni Survey Company (Pty) Ltd in Somerset West during 1997-2000 whose pioneering efforts in the development of HD map technologies were a major part of South Africa's continued success and strong international presence in the development of digital photogrammetry and mobile mapping and services. He has been involved in HD Map R&D since the late of 1990s, first in industry and as professor in Canadian universities from 2000 onwards.

He was Assistant Professor in the Department of Geography at the University of Regina (2000-2001) and Associate Professor in the Department of Civil Engineering at Ryerson University (today's Toronto Metropolitan University) from 2001 to 2006 before joining the University of Waterloo in January 2007. He created the Geospatial Intelligence and Mapping (GIM) Group, which developed numerous novel AI-based algorithms, processes, software tools and patents that have been licensed worldwide. In the 2000s, his research focus was placed on the AI-based mapping and object detection algorithms and software development using the high-resolution multispectral and SAR satellite images. In the 2010s and early part of the 2020s, research focused on mobile LiDAR point cloud processing and 3D vision methods for creating HD maps to support autonomous driving in urban roadways and autonomous parking in indoor or underground parking lots as well as for supporting digital twin cities. During his academic career to date, he has contributed to the training of hundreds of BSc students and over 130 thesis-based MSc and PhD students, and over 60 visiting scholars who are now active in industry and academia worldwide. He is widely published with over 600 research paper and received over 17000 citations with a h-index of 70. He and his PhD students have produced two successful startups.

He has served in numerous professional and learned societies, including the Canadian Institute of Geomatics (CIG), Canadian Remote Sensing Society (CRSS), International Society of Photogrammetry and Remote Sensing (ISPRS), International Cartographic Association (ICA), International Federation of Surveyors (FIG), and IEEE Geoscience and Remote Sensing Society (GRSS). Professor Li has received many prestigious awards for his contributions, including the Outstanding Achievement Award in Mobile Mapping Technology in 2019, the ISPRS Samuel Gamble Award in 2020, the CIG Geomatica Award in 2021, and the University of Waterloo's Award of Excellence in Graduate Supervision in 2022. He is Editor-in-Chief of the International Journal of Applied Earth Observation and Geoinformation (JAG), Associate Editor of the IEEE Transactions on Geoscience and Remote Sensing (TGRS), IEEE Transactions on Intelligent Transportation Systems (TITS), IEEE Journal of Selected Topics in Applied Earth Observations Remote Sensing (2015-2020), and Canadian Journal of Remote Sensing (2018-2022). He is Fellow of IEEE, the Royal Society of Canada (RSC) Academy of Science, the Canadian Academy of Engineering (CAE), the Engineering Institute of Canada (EIC), and the Asia-Pacific Artificial Intelligence Association (AAIA).