Mapping the World with Street View

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ABSTRACT

Street View started as a Google 20% project and quickly became one of the company's "moonshots". The long term dream is to capture street level imagery everywhere possible, organize it, and make it universally accessible and useful. Towards this ambitious goal, the team has already published imagery from over 60 countries, and is continuing to expand. In addition, this imagery is quickly becoming indispensable to the process of making high-quality maps at global scale. In this talk, I will explain how modern computer vision techniques based on deep learning are key to this process. They are themselves made possible by enormous datasets of training data, created using crowdsourcing techniques.

SHORT BIOGRAPHY

Luc Vincent is currently an engineering director in charge of imagery for Google's Geo products - including Street View. Luc earned his B.S. from Ecole Polytechnique, M.S. in Computer Science from University of Paris XI, and PhD in Mathematical Morphology from Ecole des Mines de Paris in 1990.

He has over 60 publications in the area of computer vision, image analysis, and document understanding. He has served as an Associate Editor for the IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), and for the Journal of Electronic Imaging. He has also chaired SPIE's conferences on Document Recognition, the International Symposium on Mathematical Morphology (ISMM), and been in the program committee of numerous conferences and workshops.

He joined Google a decade ago to work on the Google Books project. While he was ramping up Google's OCR efforts, he got involved in an early stage project whose goal was to capture a large amount of street level imagery and make it universally accessible and useful. Under his leadership, this project became Google Street View and launched officially in May 2007.

Before Google, he was Chief Scientist, and then VP of Document Imaging at LizardTech, a developer of advanced image compression software. Prior to this, he led an R&D team at the prestigious Xerox Palo Alto Research Center (PARC). He was also Director of Software Development at Scansoft (now Nuance) and held various technical management and individual contributor positions at Xerox Corporation.