

LSGI Research Seminar

A journey of extending the horizon of positioning and mapping technology - from forestry to smart construction

Date: 28 Mar 2022 (Mon)

Time: 14:00 - 15:00

Venue: online @ Zoom

Language: English

Bio:

Joon Heo is a professor at the department of civil and environmental engineering, and former director of Open and Smart Education (OSE) Center, which was formed in 2014 and in charge of MOOC production, Yonsei Learning Management System (YSCEC), and other educational issues. He also served as an associate director of Yonsei Enterprise Support (YES) Foundation from 2009 to 2017, which is in charge of incubating and accelerating start-ups at Yonsei University.

He obtained his B.S. in the Department of Civil Engineering (Urban Engineering Major) from the Seoul National University and his M.S. and Ph.D. in Civil and Environmental Engineering from University of Wisconsin-Madison. In 2000, he joined a start-up company, Forest One Inc., a value-added geospatial information provider, located in Evanston, IL. For the following five years, he led technology developments as a CTO and provided technical services to Fortune 500 companies. He joined the Department of Civil and Environmental Engineering at Yonsei University in 2005 as a faculty member. The areas of his research interests include (1) spatial data acquisition and analytics for civil infrastructure operation and management; (2) spatial data science with applications of transportation, public health, business, military, and education; (3) image processing and remote sensing for natural resource management. He has published over 120 refereed journal papers and over 150 conference papers. He was a recipient of presidential award in 2018, for his contribution to national spatial data infrastructure. He is currently running a MOOC, "[Spatial Data Science and Applications](#)".

He is an author of book, entitled "Universities: Past and Future", in which he reviewed history of higher education as well as presented his vision for the future of higher education.

Abstract:

What kind of commercial applications occur to you when it comes to geoinformatic - positioning and mapping technology? We all know that 'spatial' became a core infrastructure of modern IT world and 'Map' is a platform and an interface on which human, space, advertisement, hardware, software, contents, service, robot, and IOT can be integrated all together. Google, Apple, even Motor companies have digital maps in-house, which proves it. However, is that all? Is All we can do in commercial sector is to produce spatial data and to conduct spatial analysis in major IT companies?

Dr. Heo's experience in commercial sector started when he worked as CTO for a start-up company in the US, 20 years ago. The company, named Forest One, Inc. provided value added information using Remote Sensing data processing, to natural resource companies. After joining a faculty member in department of civil and environmental engineering, His area of R&D interest moved towards construction industry, in which positioning and mapping technology is keenly associated with construction quality, safety, and eventually productivity. Now it is well admitted that 'Smart construction', in other words, digital transformation of construction, is only feasible with basis of positioning and mapping technology.

In this seminar, Dr. Heo will present a talk about his journey of extending the horizon of positioning and mapping technology - from forestry to smart construction. Particularly, his recent research related to smart construction will be discussed in detail. He will present 8 characteristics of construction site data, and his effort to develop a construction site data platform to satisfy the characteristics. Also, other research works will be presented such as development of robot-based data acquisition system, hadoop-based distributed system for computationally intensive analysis, and BIM based Facility Management. Through this talk, he will claim that positioning and mapping experts need not only to regain technically leading position but also to seize upcoming business opportunities in construction industry.

All are welcome. To register, please click [here](#) for the details.

For enquiries, please contact Ms Anna Choi at 3400 8158 or anna.choi@polyu.edu.hk



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