

Korea-EU Horizon Europe Researchers Networking Forum on Energy & Advanced Mobility

Jaehyun (Jason) So
- Advanced Mobility -

Position / Affiliation

Associate Professor
Dept. Transport. System Engineering
AJOU UNIVERSITY

Research Areas

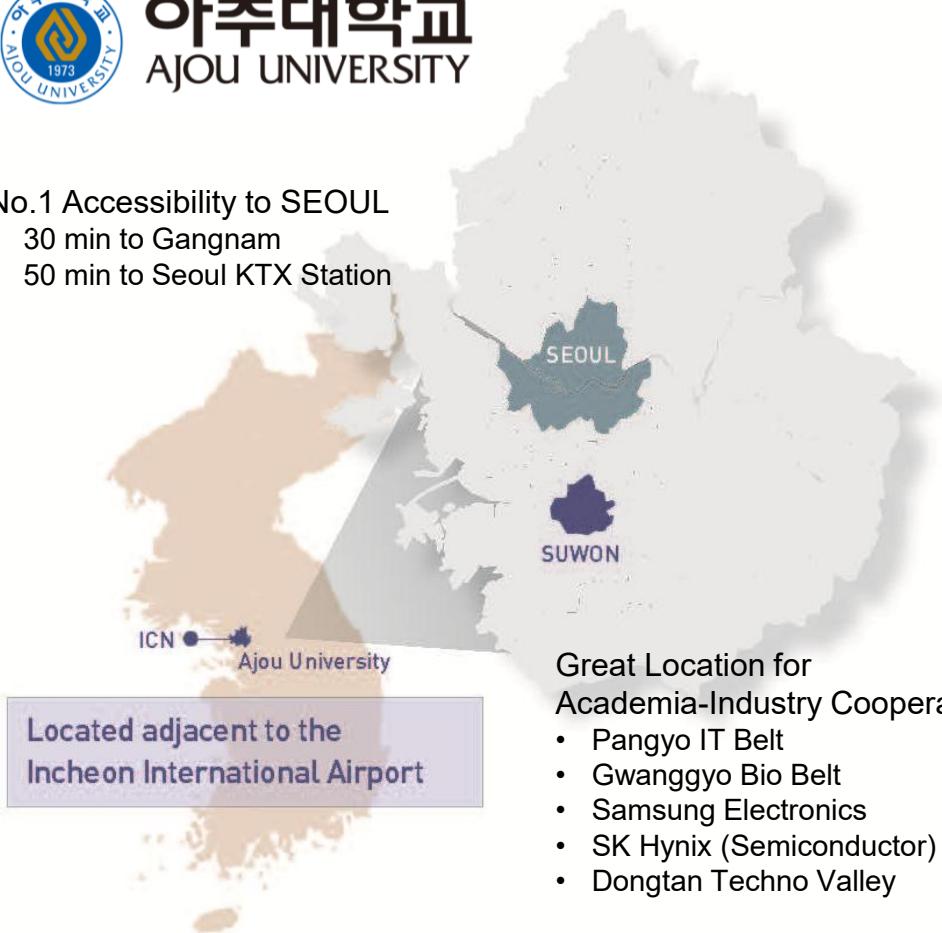
AV Controls in Traffic Flow
A.V.-Infra. Sensor Data Fusion
A.I./Heuristic-based Mobility Operation Optimization
A.I. Mobility Data Analytics



1. Short Introduction of your Organization



- No.1 Accessibility to SEOUL
- 30 min to Gangnam
 - 50 min to Seoul KTX Station



Great Location for Academia-Industry Cooperation

- Pangyo IT Belt
- Gwanggyo Bio Belt
- Samsung Electronics
- SK Hynix (Semiconductor)
- Dongtan Techno Valley



12th in South Korea
101st in Asia
563rd in the World
(QS World University Rankings, 2026)

FACTS AND FIGURES

Foundation 1973	50th Anniversary	Ajou University
Student Body 13,842	University Rankings	12 th in Korea 101 st in Asia Joong Ang Daily Newspaper THE Asia University Rankings 2025
Undergraduates 9,825	1 st	THE Young University Rankings 2024 (among the Korean comprehensive universities)
Graduates 4,017	1 st	Business Incubating Education (Joong Ang Daily Newspaper 2022)
Non-degree programs 1,500	7 th	Out of all Korean Hospitals (Ajou University Hospital in Newsweek's Top 100 Global)
	13 th	QS World University Rankings 2026 (among the Korean comprehensive universities) (World Ranking 536th)



1. Short Introduction of your Organization



*Engineering & Science
Oriented*

63.3%
students

ENGINEERING /
INFORMATION
TECHNOLOGY

48.8%

MEDICAL
SCIENCES

2.4%

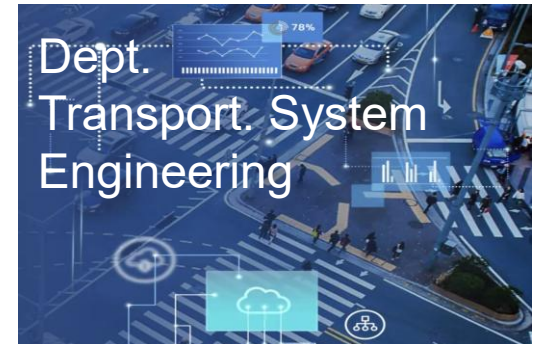
NATURAL
SCIENCES

12.1%

HUMANITIES /
SCIENCES

36.3%

*Multidisciplinary
Departmental System and
Curriculum
&
Mobility-Related
Programs*





2. Expertise



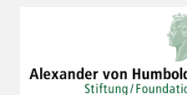
Collaboration with industries, universities, public institutions, and research institutes in the autonomous driving and AI sectors

R&D Projects	Roles of AJOU/MOVELAB	Key Partners
Future Traffic Control Center Development	Establishment of the concept of Future Traffic Control, development of use cases, and development of AI-based algorithms for major use cases	Korea Expressway Corporation
A.I./Big Data-driven Road/Link Safety Warning Algorithm	Road-link-level safety assessment and indexing algorithm development utilizing big-data-driven AI	HYUNDAI
Automated Police Patrol Vehicle R&D	Impact analysis by event type using traffic detection infrastructure data (AI-based classification and clustering) AI-based Route Generation & Optimization for Automated Police Car Patrol and Dispatch	BYDA A2Z AUTONOMOUS
Automated Service Utility Vehicle R&D	Functional validation of Automated Service Utility Vehicles (ASUVs) in virtual environments (simulation) and real-world testbeds Development of de-identification algorithms for ASUV sensor data	LG U+ RideFlux ACEWORKS
LV 4. AV Testbed and Test Procedure R&D	Design of physical and digital infrastructure components at K-City (National AV Testbed in Korea) for Level 4 autonomous vehicle testing Development of test scenarios and evaluation procedures for Level 4 autonomous vehicles	TS Korea Transportation Safety Authority 자동차안전연구원 Korea Automobile Testing & Research Institute
...	...	...

NOTE: HORIZON 2020 Experiences & Others



3 tries



ASSIST

Advanced Road Safety Simulation Test-bed for the Next-generation Driver Assistance Systems

Excellence
This research was initiated from the concern that there is no appropriate safety simulation test-bed that implement the state-of-the-art driver assistance systems by considering the potential degradation of detection technologies and various traffic situations while the road automation is being accelerated with the developments of automated vehicles equipped with the emerging detection systems and the advanced safety applications.

HORIZON 2020 – WORK PROGRAMME 2014-2015
Marie Skłodowska-Curie Actions

Call for Marie Skłodowska-Curie Individual Fellowships (IF)

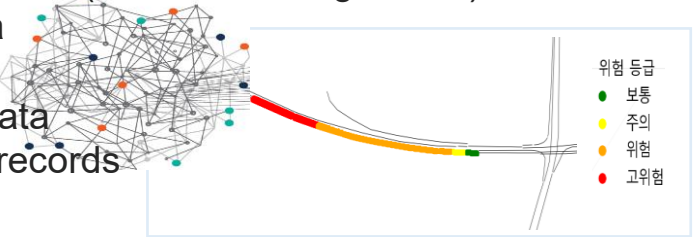
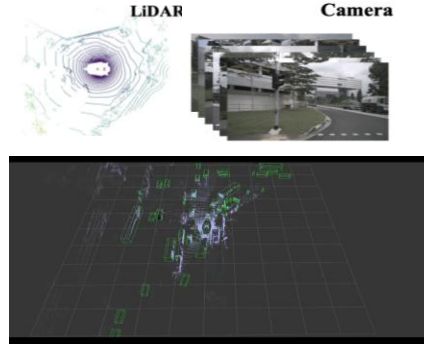
H2020-MSCA-IF-2015

Objective:

The goal of Individual Fellowships is to enhance the creative and innovative potential of experienced researchers wishing to diversify their individual competence in terms of skill acquisition through advanced training, international and intersectoral mobility.

Individual Fellowships provide opportunities to acquire and transfer new knowledge and to work on research in a European context (EU Member States and Associated Countries) or outside Europe. The scheme particularly supports the return and reintegration of researchers from outside Europe who have previously worked here. It also develops or helps to restart the careers of individual researchers that show great potential, considering their experience.

3. Your Project Idea

	Project Idea I	Project Idea II
Targeted Call	HORIZON-CL5-2026-01-D6-14: Predicting and avoiding road crashes based on Artificial Intelligence (AI) and big data	HORIZON-CL5-2026-01-D6-03: Next-generation environment perception for real world CCAM operations: Error-free and secure technologies to improve energy-efficiency, cost-effectiveness, and circularity (CCAM Partnership)
Tentative Title	AI and Mobility Big Data–Driven Road Safety Assessment and Real-Time Warning System	Traffic Monitoring Based on Autonomous Vehicle Sensor Data Fusion
Main Objectives	To develop a real-time hazard prediction and warning system using multi-source Big Data integration, advanced data fusion and machine learning algorithms.	To enable real-time detection and analysis of traffic flow dynamics and safety-critical situations utilizing abundant AV sensor data
Idea Briefly Explained	• Vehicle driving data • Road geometry data (curvature and gradient) • Digital map data • Weather data • Traffic volume data • Traffic accident records • More... 	• Utilization of data collected from autonomous mobility or its integration with infrastructure data • Monitoring of traffic conditions and prediction of hazardous situations through LiDAR-based 3D detection and sensor fusion 



4. Profile You are Seeking and Why

Project Idea I

AI and Mobility Big Data–Driven Road Safety Assessment and Real-Time Warning System

Type	Example Expertise
Data Analytics & AI Research Institutes / Universities	Machine learning for multimodal data fusion, spatiotemporal risk modeling, digital twins for traffic networks
Diverse and Massive Big Data Collection, Post-processing, and Integration	Traffic, weather, crash, and other data collection, post-processing, and integration
National / Regional Road Authorities or Safety Agencies	Traffic incident reporting, black-spot management, road safety monitoring
ITS Industry Partners / SMEs	Edge AI platforms, sensor data gateways, in-vehicle warning systems
European Living Labs / Smart Cities	Urban data platforms, digital infrastructure for connected mobility

Project Idea II

Traffic Monitoring Based on Autonomous Vehicle Sensor Data Fusion

Type	Example Expertise
Data Analytics & AI Research Institutes / Universities	Sensor data collection post-processing of point cloud data, and AI algorithm development
Automotive / ADAS Technology Companies, research institution, and Universities	Multi-sensor fusion, perception pipeline, vehicle data standardization (ASAM OpenLABEL, OpenX)
Connected Mobility Infrastructure Operators	5G/6G-V2X, edge computing, ITS-G5 testbeds
Traffic Simulation & Modeling Research Centers	Digital twins, microscopic/multi-agent traffic simulation, C-ITS evaluation
Public Authorities / Transport Ministries	Policy use cases, safety KPIs, data governance frameworks

4. Profile You are Seeking and Why

Let's Dive in Together

If you're passionate about exploring diverse mobility data and unlocking the potential of autonomous vehicles — from control algorithms to sensor data fusion — we'd love to have you on the journey.

Potential Collaboration Partners Based on My Career at Technical University of Munich

A.I./Big Data in Transport & Mobility



Possible Contributions

- Designing AI-based traffic behavior analysis and risk detection models
- Development of risk prediction algorithms using multi-source traffic data

Prof. Dr. Constantinos Antoniou

Chair of Transportation Systems Engineering
Technical University of Munich

A.V. Sensor Data Fusion



Possible Contributions

- Collection and processing of autonomous vehicle sensor data
- Sensor data fusion, and AI learning algorithms

Prof. Dr. Johannes Betz

Professorship Autonomous Vehicle Systems
Technical University of Munich

A.V. Testbed and Procedure



Possible Contributions

- Collection and processing of autonomous driving data on testbeds and real roads
- Data mapping and safety index development based on digital maps

Dr. Martin Margreiter

Head of Mobility Innovation Campus
Industrieanlagen-Betriebsgesellschaft mbH



5. Contact Details



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Ph.D. in 2013

“Connected Vehicles”



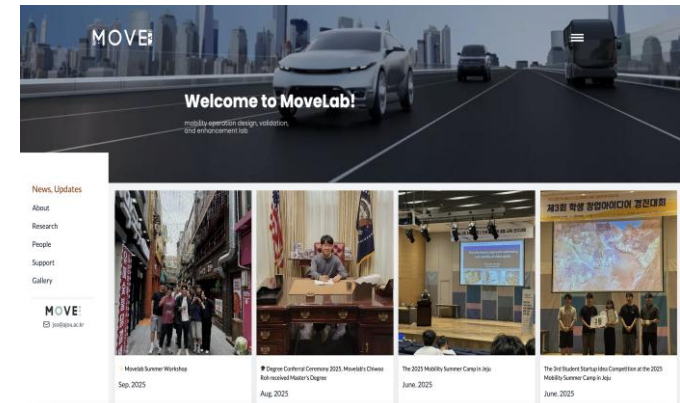
Development of a Surrogate Safety
Assessment Framework Incorporating
Traffic Simulator, Vehicle Dynamics,
Driver warning, GPS/INU, and V2V/V2I



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movelab.ajou.ac.kr



MOVE
LAB
mobility operation design, validation, and enhancement lab