

US-Korea Advanced Transportation Infrastructure Informatics Institute (ATI³)

**July 10 - July 27
of 2023**

Hosted by the Korea
Advanced Institute of
Science and
Technology (KAIST)
in S. Korea

NSF IRES: AI x Simulations



Sponsored by the NSF
International Research
Experience for Students
Program (IRES)

Transformational Learning:

Learn the fundamentals of AI and simulations, pertaining to intelligent transportation.



Trans-disciplinary

Selected NSF-IRES fellow students, situated in various disciplines, will be fully immersed in a truly enriching high-impact research environment at KAIST, the "MIT of S. Korea".



Research-driven

Student teams will solve grand societal challenges in an innovative project-based format.



Mentoring

Each student and team will be guided by three mentors.



Professional Development

Students will network with professionals working in Korea's smart city center and consulting firm.

"There is no doubt that ATI³ will serve as a solid foundation for the NSF-IRES fellows' theses and research papers."

To Apply:

Please reach out to kchoi@tamu.edu with the following application materials:

1. **Resume**
2. **1-page short statement** describing how this experience will impact the applicant
3. **Transcript**

- For priority consideration, applications should be submitted on a rolling basis, with a deadline of May 2, 2023.

Benefits

Travel Support

\$2,000

Lodging

Field Trip Expenses

Rewards

Certificate of Completion

Prize for Research Excellence

Eligibility

Citizenship



U.S. Citizens or Permanent Residents Only

Education



Graduate Students Preferred



Learn more at <http://people.tamu.edu/~kchoi/nsf-ires.html>



CALENDAR OF ACTIVITIES

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Lecture (3 Hours)



Field Trip



Self-Study

Week 1 AI Fundamentals and Trends

- Machine Learning
- Regression/Classification
- RNN/LSTM
- Reinforcement Learning
- New Trends (Transformer, ChatGPT, etc.)

Week 2 AI-Fused Behavior Detection & Analysis

- Vision-Based Object Detection
- Trajectory Tracking
- Road Hazard Detection

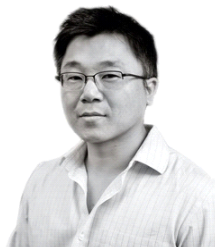
Week 3 Mixed Mobility Traffic Simulations

- Traffic Simulation Models
- Mixed Mobility Simulations with SUMO
- Simulations into Practice



Dr. Hwasoo Yeo

Professor
IRES Partner
Director of AI x Mobility Lab
Civil & Environmental Engineering
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<https://www.aimobility.kaist.ac.kr/>



Dr. KC Choi

Professor
Principal Investigator
Construction Science
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<http://people.tamu.edu/~kchoi/professor.html>



Dr. Inhi Kim

Associate Professor
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