



US-Korea Advanced Transportation Infrastructure Informatics Institute (ATI<sup>3</sup>)

June 24 - July 11 of 2024

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

NSF IRES: AI Analytics in Smart Transportation



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."



**Action Learning**

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



**Mentoring**

Each student and team will be guided by seven mentors.



**Professional Development**

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

"There is no doubt that ATI<sup>3</sup> will serve as a solid foundation for the NSF-IRES fellows' theses and research papers."

**To Apply:**

Please reach out to [kcchoi@tamu.edu](mailto:kcchoi@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 3, 2024**.

**Benefits**

**Travel Support**

\$2,300

**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

# CALENDAR OF ACTIVITIES

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## Week 1 AI Fundamentals & Simulation

- Machine Learning Basic
- Regression/Classification
- RNN/LSTM
- Simulation Models & Exercise (SUMO)

## Week 2 AI Analytics

- Vision-based Object Detection
- Trajectory Tracking
- AI-based Traffic Analytics
- Intelligent Transportation Systems



## Week 3 AI Decision Making

- Digital Twins: Where Are We?
- Traffic Prediction and Control
- Autonomous Vehicle Control
- Road Pavement Analytics

# PROGRAM FACULTY



**Dr. KC Choi**  
Professor  
Principal Investigator  
i<sup>2</sup>dEAS Lab  
Construction Science  
Texas A&M University  
kcchoi.com



**Dr. Yunlong Zhang**  
Professor  
Co-Principal Investigator  
Civil & Environmental Engineering  
Texas A&M University



**Dr. Hwasoo Yeo**  
Professor  
IRES Partner  
AI x Mobility Lab  
Civil & Environmental Engineering  
KAIST  
aimobility.kaist.ac.kr



**Dr. Inhi Kim**  
Associate Professor  
TUPA Lab  
Cho Chun Shik Graduate School of Mobility  
KAIST  
inhi.kim



**Dr. Jinwoo Lee**  
Associate Professor  
Infrastructure & Mobility Lab  
Civil & Environmental Engineering  
KAIST  
lee.kaist.ac.kr

# RESEARCH MENTORS



**Dr. Hwapyeong Yu**  
Post-doctoral Researcher  
AI x Mobility Lab



**Dr. Yeeun Kim**  
Post-doctoral Researcher  
AI x Mobility Lab

**" We develop a diverse, globally engaged workforce with world-class skills."**

**- NSF IRES Program -**

