

<Curriculum Vitae>

Sangyup Lee

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EDUCATION

The University of Texas at Austin, Ph.D., Mechanical Engineering	2013 - 2017
Seoul National University, MS, Mechanical Engineering	2004 - 2006
Seoul National University, BS, Mechanical Engineering	2000 - 2004

PROFESSIONAL RESEARCH EXPERIENCE

Assistant Professor, Mechanical Engineering, The University of Suwon	2026 - present
Senior Researcher, Dept. of Vehicles, Korea Railroad Research Institute	2022 - 2026
Research Faculty, Georgia Institute of Technology (PI: Suresh Menon)	2019 - 2022
Postdoctoral Fellow, IIHR, University of Iowa (PI: H.S. Udaykumar)	2018 - 2019
CAE Engineer, Advanced CAE Team, Hyundai Motor Company	2006 - 2012

SELECTED RECENT PUBLICATIONS (SINCE 2022)

1. (Preprint) Lee, Sangyup and Choi, Jin and Lee, Naeun and Kim, Hyeonbin and Hyeon, Janghun, (2026). Robotic Vision-based Tram Wheel Surface Defect Detection with Profile-Guided Multi-View Anomaly Detection, Image and Vision Computing.
2. Lee, S., Choi, K., Park, S., Lee, S., & Kwak, J. (2026). Development and evaluation of an optimized wheel design for tram-train wear and derailment performance. Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, 09544097251389247.
3. Sangyup Lee, Hyeonjoo Lee, Sungwon Park, Jaeho Kwak, (2025) Development of Testbed for Safety Evaluation against Tram Derailment on Sharp-Curve Embedded Tracks, JKSR.
4. Kwak, J., & Lee, S. (2025). Parametric optimisation of tramway wheel profiles using surrogate modelling and multibody simulation. Vehicle System Dynamics, 1-32.

5. Lee, S., Choi, J., Kim, N., & Hyeon, J. (2025). Real-time Vision-based Wheel-Rail Interface Monitoring for Tramway Running Performance. IEEE Access.
6. Lee, S., & Fahrenthold, E. P. (2022). Multiscale simulation of shock to detonation in condensed phase explosives. Journal of Applied Physics, 132(17).
7. Lee, S., Panchal, A., & Menon, S. (2022). Effects of dense inert particle loading in shocked energetic materials. Propellants, Explosives, Pyrotechnics, 47(6), e202100330.

PROFESSIONAL AFFILIATIONS

Member, American Society of Mechanical Engineers (ASME)

Member, Institute of Electrical and Electronics Engineers (IEEE)

Member, Korean Society of Mechanical Engineers (KSME)

Member, Korean Society for Railway (KSR)

Member, Korean Society for Precision Engineering (KSPE)

Member, Korean Society for Urban Railway (KOSUR)

Member, Korean Society of Automotive Engineering (KSAE)

Member, Korea Robotics Society (KROS)

LANGUAGES

English, Korean

NATIONALITY

South Korea (citizenship)

U.S. green card holder

REFERENCE CONTACTS

Eric P. Fahrenthold, Professor, the University of Texas at Austin, epfahren@austin.utexas.edu

Suresh Menon, Professor, Georgia Institute of Technology, suresh.menon@aerospace.gatech.edu

HS Udaykumar, Professor, University of Iowa, hs-kumar@uiowa.edu