

Jose Tupayachi

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Education

University of Tennessee, Knoxville | PhD Candidate in Industrial and Systems Engineering - Aug 2024 - Present
Advisor: Dr. Xueping Li, Co-advised: Dr. Haowen Xu
University of Tennessee, Knoxville | MS in Industrial and Systems Engineering Aug 2022 - Jul 2024

Publications

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- **Drone-aided delivery methods, challenges, and the future: A methodological review**
X Li, J Tupayachi, A Sharmin, M Martinez Ferguson
Drones 7 (3), 191 (2023)
 - **Towards next-generation urban decision support systems through AI-powered construction of scientific ontology using large language models—A case in optimizing intermodal freight**
J Tupayachi, H Xu, OA Omitaomu, MC Camur, A Sharmin, X Li
Smart Cities 7 (5), 2392-2421 (2024)
 - **Automating Bibliometric Analysis with Sentence Transformers and Retrieval-Augmented Generation (RAG): A Pilot Study in Semantic and Contextual Search for Customized Literature**
H Xu, X Li, J Tupayachi, JJ Lian, OA Omitaomu
Proceedings of the 2nd ACM SIGSPATIAL International Workshop on Advances in . . . (2024)
 - **Better Efficiency on Non-performing Loans Debt Recovery and Portfolio Valuation Using Machine Learning Techniques**
J Tupayachi, L Silva
Production and Operations Management: POMS Lima, Peru, December 2-4, 2021 (2022)
 - **A Simulation-Based Real-Time Deep Reinforcement Learning Approach for Fighting Wildfires**
J Tupayachi, MM Ferguson, X Li
2024 Annual Modeling and Simulation Conference (ANNSIM), 1-12

Funded Projects Developer

RECOIL | Cognitive Freight Transportation Digital Twin for Resiliency and Emission Control Through Optimizing Intermodal Logistics Nov 2021 – Present
Funding Agency: U.S. Department of Energy's Advanced Research Projects Agency-Energy (ARPA-E)
SmartShots | Cross-Platform App to Improve Childhood Vaccination Rates in TN December 2022 – Present
Funding Agency: Tennessee Department of Health
Active Caregiver's Toolkit (ACTAPP) | Mobile Application to Promote Physical Activity Among Rural Appalachian Caregivers at Risk for Cardiovascular Disease (CVD) Jul 2024 - Present
Funding Agency: Hillman Emergent Innovation (HEI)

Awards & Scholarships

IISE Data Analytics & Information Systems (DAIS) Student Mobile App Competition
2024 Winners - SmartShots Project, Montreal
HIDA Helmholtz Visiting Researcher
Year: 2024 - Awarded but not taken.

Work Experience

Data Engineer | Indra – Full-time Jan 2022 – Aug 2022
Data Analyst | Enel Group – Full-time Nov 2020 – Dec 2021