

Nghia (Neal) Do

MBA

Senior Consultant



With more than 20 years of experience in railroad engineering, software development, and transportation technology, Nghia has led the design, implementation, and modernization of systems that improve rail operations, safety, and efficiency. His expertise spans simulation technologies, machine vision systems, software architecture, mobile application strategy, and large-scale enterprise integration.

Prior to joining ESi, in 2026, Nghia served in engineering and leadership roles with PS Technology (a subsidiary of Union Pacific Railroad) and Union Pacific Railroad. Most recently, he was a System Engineer at Union Pacific Railroad, where he led the architecture and deployment of the Physics Train Builder (PTB) train simulation platform for multiple railroad customers.

During his tenure at Union Pacific Railroad, Nghia managed teams of software engineers and spearheaded initiatives involving train imaging, machine vision, railcar defect detection, and mobile application infrastructure.

Education

BS, Computer Engineering. Michigan State University. 2005

MBA, University of Nebraska Omaha. 2009

Languages

- English
- Vietnamese

Positions Held

Engineering Systems Inc.

- Senior Consultant, 2026 – Present

PS Technology/Union Pacific

- System Engineer, 2020-2026

Union Pacific Railroad

- Associate System Engineer, 2017-2020

Contact Information

ndo@engsys.com

(402) 881-4871

ESi Omaha

5697 North 13th Street
Omaha, NE 68110

Areas of Specialization

- System Integration and design
- Rapid Prototyping/MVP
- C++, C#, Python, SQL, Unity
- Lidar, Point Cloud, Machine Vision, GIS, Networking, Arduino, Motes, Ollama
- Azure Cloud
- Mongo DB, Oracle
- Digital transformation/ Process Automation

- Manager, 2013 – 2017
- Associate to Senior Project Engineer, 2005 – 2013

Project Experience

Digital Transformation

Physics Train Builder

- Integrates with transportation systems and GIS/track data systems to simulate trains that are scheduled to run.
- Analyze results from simulation to identify possible issues, possible locations, and possible risk mitigation strategies for user review.
- Architected to run in Azure Cloud using Windows VMs, Service Bus, Java containers, and Blob storage.
- Rearchitected to run using existing on-prem technology stack.

Clearance Car Redesign

- Design new technology package to replace obsolete and unsupported technology.
- Improve user experience by adding features that simplified the user workflow and interaction.
- Analyze and integrate with current processes, data inputs, and expected outputs.

Video Vault – Video intake and management system

- Design and develop system to manage legally sensitive video files.
- Removed the need for CD/DVD burning, sending, and disposal.
- Removed the need for sending crash hardened hard drives, saving on shipping costs, delays, and lost data.
- Allowed users to access videos within hours instead of days.
- Manage video access and provide audit of who has access and when the files were accessed.
- Cross departmental use of video management system.

Leadership and Innovation

Mobile Platform Strategy

- Member of leadership team to establish mobile platform strategy.
- Implemented in-house app store.
- Created processes to use existing tech stack to implement mobile applications along with new training materials.
- Developed plan for device security, updates, and integration into wireless networks.

Machine Vision and Inspection Systems

- Managed team of highly skilled engineers.
- Implemented system that uses linescan, areascan, lidar, triangulation lasers, and wheel sensor to capture 2D and 3D images of moving equipment.
- Created machine learning and deep learning system to identify possible defects.
- Developed system to allow users to view images and results of algorithms and integrated with bad order systems.
- System was modified for use at intermodal yards for in-gating.