INCOSE CHICAGOLAND

ONE DAY WORKSHOP · LIVE ONLINE

AI for Systems Engineering

Applying AI within disciplined systems engineering practice

DATE
Saturday
July 25, 2026

TIME
9:00 AM to 5:00 PM
Central Time

FORMAT
Live Online
via Zoom

What you will learn

- Frame engineering problems and guide AI to useful answers.
- Validate and author system requirements with AI support.
- Create and evaluate alternative solution architectures.
- Spot AI limitations and risks, and keep responsibility clear.

Who should attend

Engineers and technical professionals in requirements, architecture, design, verification, integration, and engineering management. No prior AI experience needed. Newcomers and current AI users are equally welcome.

YOUR FACILITATOR

John Fitch

Systems engineering practitioner and PPI course presenter.

REGISTRATION *Limited availability*

Early Bird *first 5 seats only*	**$60**
Student	$40
INCOSE Member	$70
Nonmember	$100

Register early to reserve your place

Reserve your seat today

Register at incosechicagoland.com/events

Bring Your Own LLM

ChatGPT · Gemini · Claude · Copilot

Earn 8 PDUs toward INCOSE SEP

Workshop Agenda

AI for Systems Engineering · one day, eight hours · delivered by PPI

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1 Workshop Orientation

- Purpose and scope
- Key terms: AI, LLM, prompt, hallucination
- Connection to existing SE practice
- Path to enterprise scalable AI4SE

2 AI and LLM Fundamentals for SE

- What LLMs do, and do not do
- LLM glossary and how LLMs work
- Tradeoffs and limitations
- The AI capability stack

3 Prompt Engineering

- A prompt engineering process model
- Anatomy of an effective prompt
- Quality attributes and observed defects
- Hallucination prevention methods

4 Applied Practice: Building SE Artifacts

- Introduction to the workshop system
- Exercise 1: system requirements quality
- Exercise 2: system architectural design
- Exercise 3: subsystem requirements derivation

5 Enterprise Risks, Governance, Roadmap

- A roadmap to safe, scalable AI4SE
- Example AI use policy and governance
- LLM security boundaries
- Retrieval Augmented Generation architectures

6 In Closing

- Consolidation of learning
- Next steps for individuals and teams
- References and further reading

SUPPORT

Before the seminar: setup support

We open the session one hour early so you can get set up and resolve any connection, audio, or LLM questions before we begin. Need more help with the program and the outlines? An on demand Friday setup session is available on request. Please note that we do not provide a large language model; each participant brings their own.

8 PDUs toward INCOSE SEP

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INCOSE Chicagoland
in partnership with Project Performance International

Meet Your Facilitator

and about the AI for Systems Engineering seminar

John Fitch

Expert Systems Engineering Professional (ESEP), INCOSE

Facilitator · Project Performance International (PPI)

John Fitch brings more than four decades of engineering, engineering management, consulting, and training experience, and was certified by INCOSE as an Expert Systems Engineering Professional in 2012. Across more than 20 years of independent consulting he has focused on decision management, requirements, risk, system design and architecture, and technology roadmapping, for clients including Motorola, Northrop Grumman, United Technologies, QinetiQ, and the U.S. Army, spanning defense, aerospace, medical devices, energy, and communications. An innovator in systems engineering methods, he was an early adopter of DOORS for requirements management and created the Decision Driven Design methodology and its decision patterns. He has presented at INCOSE, IEEE, and NDIA, and has taught several thousand professionals to think more clearly, creatively, and holistically, a passion he now brings to PPI.

About the seminar

AI for Systems Engineering is a practical, intensive, eight hour workshop on applying AI within established systems engineering practice. AI tools are increasingly accessible, yet accessibility is not the same as effective use, and teams often produce outputs that are hard to trust or to integrate. Through short presentations and extensive hands on exercises, participants learn to frame engineering problems for AI, guide the interaction, and interpret outputs so they can be used appropriately within engineering artifacts. The workshop builds real skill in validating and authoring requirements, creating and evaluating alternative architectures, and deriving subsystem requirements, while recognizing the limitations and risks of AI. Participants use their own preferred large language model, so the learning transfers directly to daily work, and all materials, exercises, and reference content remain available for reuse afterward. The emphasis is disciplined application that strengthens, rather than replaces, engineering knowledge and judgment, with a roadmap from individual use to integration at scale across engineering workflows.

Disciplined

AI applied within real SE practice, not hype.

Hands on

Half the day spent on realistic SE exercises.

Responsible

Recognize limits, risk, and where responsibility sits.

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