



**Harnessing Artificial Intelligence for Enhanced Fire Safety**

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**Who Am I?**



Milosh possesses over 38 years experience teaching, applying, consulting and researching fire hazard analysis, systems design, construction and egress. He is full time faculty in the FPE Department at WPI. He chairs and serves on numerous technical committees of the NFPA, SFPE and UL. Milosh is former Secretary to NFPA's Standards Council and Past President of SFPE. Milosh is an editor of the Handbook of Fire Projection Engineering, holds degrees in mechanical and fire protection engineering, is a registered professional engineer in the State of Massachusetts and a Fellow of SFPE.

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**Talking Points**

- Expanding Impact of AI
- What is AI / Machine Learning?
- What is FP design practice?
- What is in the FP Systems designer's toolbox?
- How will our profession be disrupted?

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**Igniting Innovation**

**CALLING ALL STUDENTS!**

Compete For Your Share of \$20K in the JAM!

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- Application deadline: **February 15**
- Scan QR code for details

Presented by

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write me a sympathy note for the passing of the dad of one my childhood friends who was a big part of my life especially as a coach of youth sports


Certainly. Here's a thoughtful and heartfelt sympathy note you can send or write in a card:

Dear [Friend's Name],

I was so sorry to hear about the passing of your dad. He was such a meaningful part of my life growing up—not just as your father, but as a coach, mentor, and positive influence during those important years. I'll always remember his encouragement on the sidelines, his steady guidance, and the way he made us all feel like part of something bigger than the game.

Please know that I'm holding you and your family in my thoughts. I hope you find comfort in the love that surrounds you and the legacy he leaves behind—not just in your family, but in the many lives he touched, including mine.

With heartfelt sympathy,  
[Your Name]

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**Is it Magic?**


**Is there a Ghost in the Machine?**



**THE POLICE**

**GHOST IN THE MACHINE**

Oct 1981

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**Why Even Smart People Believe AI Is Really Thinking**  
 As our adoption of artificial intelligence grows, so does our belief that the machines are sentient. That's a fluke of evolution, say researchers.

By Christopher M. Hasty  
 March 21, 2024 9:00 am ET **WSJ**

Americans are becoming increasingly convinced that artificial intelligence is actually thinking like humans do.

This flies in the face of all we know about its inner workings: AI can't think, doesn't have a mind and, in fact, is inherently untrustworthy.

It doesn't help that AI companies are engineering their products to make people think this way—and that some leaders even suggest there's a chance

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**How I Stop AI From Telling Me What I Want to Hear**  
 ChatGPT's conversational style makes us feel good. But it creates all sorts of problems.

By Elizabeth Dworak  
 March 21, 2024 10:00 am ET **WSJ**

**I Feel Like I'm Going Crazy: ChatGPT Fuels Delusional Spirals**  
 A new form of artificial intelligence is making us feel like we're losing our minds.

By Elizabeth Dworak  
 March 21, 2024 10:00 am ET **WSJ**

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**AI Is a Threat to Everything the American People Hold Dear**  
 It kills jobs, erases connections, democracy and maybe the human race. Congress must act.

By Benja Gardner  
 April 3, 2025 9:00 am ET **WSJ**

How can we rush forward when AI could displace tens of millions of workers? Elon Musk has stated that "AI and robots will replace all jobs." Bill Gates has said humans won't be needed "for most things." If machines can perform most economically valuable work better than humans can, how do people earn a living and support their families? **WSJ April 3, 2025**

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**The Case Against AI in Higher Education** **WPI AI Summit - March 25, 2026**

**Speaker: John Bambommatou**

This presentation will argue that the modest educational benefits of generative AI are far outweighed by its extensive harms. AI erodes cognitive abilities, weakens the relationship between teacher and student, reduces knowledge to a mere instrument, and undermines ethical integrity. Its widespread use threatens the foundations of writing and critical thinking, deepens social alienation, fragments shared understanding, and exploits human labor. Far from being a neutral tool, AI functions as a Trojan horse within the university—an extractive technology that accelerates ecological destruction while paving the way for expanded surveillance and social control.



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**What is intelligence?**



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**What is intelligence?**

- Capacity to understand the physical world
- Maintain and utilize persistent memory
- Ability to reason and adapt
- Capable of planning



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### Observations

- Is it math not magic
- It is a prediction engine
- Sophisticated pattern completion machines
- It is much more than a complex database
- It is not looking up the answer like a librarian going to a shelf and grabbing a book
- It is producing a statistically plausible output.



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
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### What can AI do for me?

1. Meeting Summaries and Transcriptions – highlight key points, decisions made, action items in real time
2. Scheduling and Reminders – based on participants availability
3. Task Management – follow up and provide progress updates
4. Real-Time Translations – for participants who speak different languages
5. Voice Commands and Interaction - to record specific points, highlight important discussions, search through past meetings
6. Meeting Analytics - analyze participation levels, speaking times, or overall engagement to improve future meetings
7. Virtual Collaboration Tools - share files, open documents, or access cloud storage for better collaboration
8. Enhanced Communication - monitor conversations to propose alternative phrasing or reminding users to stay on topic



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THE WALL STREET JOURNAL


SCIENCE OF SUCCESS

### There's a New Hit Podcast That Will Blow Your Mind

With this Google tool, you can make a show about any topic you could possibly imagine. The hosts aren't human. You won't believe your ears.



### What can AI do for me?



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### Chat GPT – Develop me a keynote presentation

<p><b>Slide 1 – Title</b></p> <p>Harnessing AI for Enhanced Fire Safety: Transforming Detection, Response, and Risk Management</p>	<p><b>Slide 4 – Why AI Matters in Fire Protection</b></p> <ul style="list-style-type: none"> <li>- Traditional systems: rule-based, threshold-driven</li> <li>- AI systems: adaptive, learning-based</li> <li>- Ability to process real-time data for predictive analytics</li> <li>- Enhanced decision-making under uncertainty</li> </ul>	<p><b>Slide 7 – Reducing False Alarms</b></p> <ul style="list-style-type: none"> <li>- Pattern recognition to distinguish true vs nuisance events</li> <li>- Context-aware detection (time, occupancy, environment)</li> <li>- Continuous model improvement using historical data</li> </ul>
<p><b>Slide 2 – The Moment We Are In</b></p> <ul style="list-style-type: none"> <li>- Rapid advancement of artificial intelligence technologies</li> <li>- Increasing complexity of fire protection systems</li> <li>- Growing expectations for reliability and performance</li> <li>- Opportunities to move from reactive to proactive safety</li> </ul>	<p><b>Slide 5 – Current Limitations in Fire Safety</b></p> <ul style="list-style-type: none"> <li>- Data silos and siloed information</li> <li>- Limited diagnostic capabilities</li> <li>- Multi-system design complexities</li> <li>- Fragmented data across systems</li> </ul>	<p><b>Slide 8 – Predictive Risk Assessment</b></p> <ul style="list-style-type: none"> <li>- AI models using historical incident data</li> <li>- Identification of high-risk conditions and behaviors</li> <li>- Proactive maintenance for fire protection systems</li> </ul>
<p><b>Slide 3 – What Do We Mean by AI?</b></p> <ul style="list-style-type: none"> <li>- Machine Learning (ML)</li> <li>- Deep Learning (neural networks, pattern recognition)</li> <li>- Natural Language Processing (NLP)</li> <li>- Edge AI vs Cloud AI</li> </ul>	<p><b>Slide 6 – AI-Enabled Detection</b></p> <ul style="list-style-type: none"> <li>- Intelligent smoke and flame detection</li> <li>- Video-based fire and smoke recognition</li> <li>- Multi-sensor data fusion</li> <li>- Early anomaly detection before ignition or escalation</li> </ul>	<p><b>Slide 9 – Smart Emergency Response</b></p> <ul style="list-style-type: none"> <li>- Real-time decision support for first responders</li> <li>- Dynamic evacuation modeling</li> <li>- Integration with building management systems</li> <li>- AI-assisted incident command</li> </ul>

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## The FPE Practice

Develop recommendations that minimize the impact of fire on life, public welfare, property and business continuity through effective and reliable safety solutions.

(Plans, specifications, system & product selection, procedures, supporting analysis & documentation)

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## What are a FPE's functions?



Assess	Assure compliance with regulatory documents
Establish	Establish fire safety goals, objectives, acceptance criteria
Articulate & assess	Articulate & assess fire risks and hazards
Recommend & design	Recommend & design safety systems - integrated, passive, active, egress, continued functionality
Develop and implement	Develop and implement fire prevention and emergency response plans
Conduct & document	Conduct & document analysis, calculations (computer models) & tests
Investigate	Investigate fire events



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## What is in the FPE Toolbox?




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**How will the practice of FPE be disrupted?**

Rethinking regulatory documents?  
 For how long will be doing the same things the same way?  
 How can we better understand fire, system and human behavior?  
 What will new data acquisition and analytics lead to?  
 Will disruptions come from within or outside the fire safety community?  
 Does AI/ML impact jobs or tasks?



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**Thank You**

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