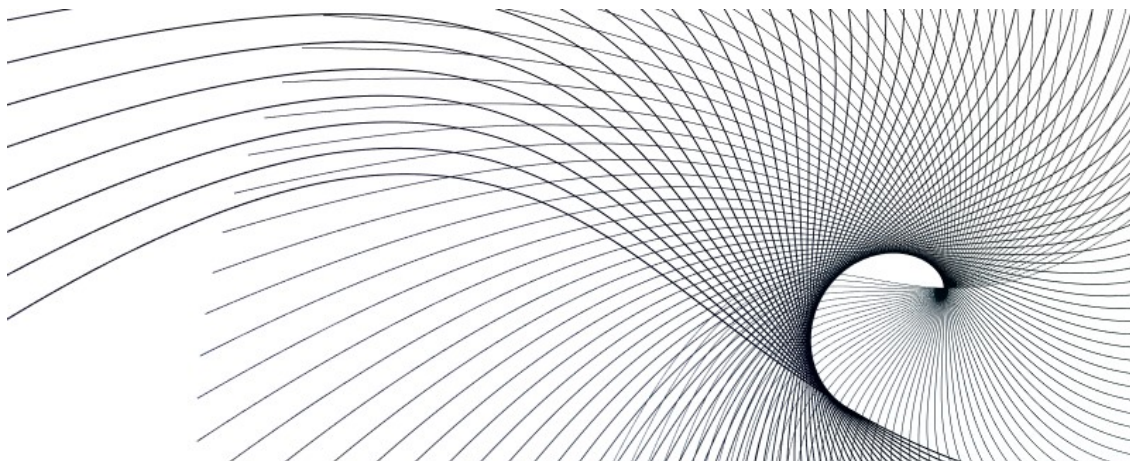


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## Synergy Among Engineering Disciplines: Software, Cybersecurity, and AI

**September 13, 2023**—Future missions in defense, national security, and other domains will require synergy among software, cybersecurity, and artificial intelligence (AI) engineering disciplines, according to a new blog post by the SEI's director and CEO, Paul Nielsen. In *Synergy Among Engineering Disciplines: Software, Cybersecurity, and AI*, Nielsen reviews the origins of these three disciplines and suggests how their relationships would contribute to intelligent systems of the future.

Nielsen describes the SEI's work where each discipline intersects with another: software engineering for AI, AI for software engineering, software engineering for cybersecurity, cybersecurity for software engineering, cybersecurity for AI, and AI for cybersecurity. "The [SEI] envisions that a confluence of advances in those disciplines will support an automated and secure software lifecycle - including the supply chain," he writes.

[Read the blog post »](#)



## SEI News

### [Report Advises Major AI Investments for U.S. Department of the Air Force](#)

A committee including the SEI's Tom Longstaff recommends a rapid transformation of the department's artificial intelligence testing and evaluation capabilities.

### [Zero Trust Industry Days 2023 Calls for Presenters](#)

The SEI invites established zero trust solution providers to submit a proposal by September 22.

### [Insider Risk Management Symposium to Focus on Making the Fundamentals Stick](#)

Registration for the tenth annual event is now open.

[\*\*See more news »\*\*](#)

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## Latest Blogs

### [Synergy Among Engineering Disciplines: Software, Cybersecurity, and AI](#)

Paul Nielsen reviews the origins and interactions of the software, cybersecurity, and AI engineering disciplines and posits how their interrelationships would contribute to the intelligent systems of the future.

### [3 Activities for Making Software Secure by Design](#)

Carol Woody and Robert Schiela discuss key principles, roadblocks, and accelerators that can shift the secure software development paradigm.

[\*\*See more blogs »\*\*](#)

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## Latest Podcasts

### [An Agile Approach to Independent Verification and Validation](#)

Justin Smith talks with Suzanne Miller about how to bring concepts from Lean and Agile software development into the practice of IV&V.

### [Zero Trust Architecture: Best Practices Observed in Industry](#)

Matthew Nicolai and Nathaniel Richmond discuss five best practices in implementing a zero trust architecture, their significance, and ways to empower your organization's zero trust transformation.

[\*\*See more podcasts »\*\*](#)

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## [\*\*Latest Publications\*\*](#)

### [Emerging Technologies: Seven Themes Changing the Future of Software in the DoD](#)

This report describes the importance of advanced computing, advanced materials, artificial intelligence and machine learning, biotechnology, cybersecurity, digital transformation, and distributed computing to the Department of Defense and the software engineering community.

### [A Holistic View of Architecture Definition, Evolution, and Analysis](#)

This report focuses on performing architectural decisions and architectural analysis, spanning multiple quality attributes, in a sustainable and ongoing way.

### [Demonstrating the Practical Utility and Limitations of ChatGPT Through Case Studies](#)

This paper describes four case studies using GPT-3.5 to assess the practical utility of large language models such as ChatGPT.

[\*\*See more publications »\*\*](#)

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## [\*\*Latest Videos\*\*](#)

### [Leveraging Software Bill of Materials Practices for Risk Reduction](#)

Charles Wallen, Carol Woody, and Michael Bandor discuss how

organizations can connect software bill of materials (SBOM) to acquisition and development.

### [Insider Risk](#)

Matthew Butkovic interviews Dan Costa about how the SEI's Insider Risk team conducts empirical research and develops socio-technical solutions that allow organizations to reduce the impact and likelihood of insider attacks.

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## [Upcoming Events](#)

Webcast - [Evaluating Trustworthiness of AI Systems](#), September 13  
SEI researchers will discuss how to evaluate trustworthiness of AI systems given their dynamic nature and the challenges of managing ongoing responsibility for maintaining trustworthiness.

[Insider Risk Management Symposium 2023](#), September 14  
Join us to hear about the latest challenges and best practices in insider risk management from recognized leaders in insider threat research and development.

Webcast - [Ask Us Anything: Generative AI Edition](#), September 26  
SEI researchers take your questions and discuss what generative AI does well and the associated risk and opportunities.

[Supply Chain Risk Management Symposium 2023](#), October 11  
Join us to hear about the latest challenges and best practices in SCRM from recognized leaders in SCRM research, as well as leading-edge practitioners from government and industry.

[DevSecOps Days Washington, D.C., 2023](#), October 12  
At this free, SEI-hosted event, learn how to integrate security into your DevOps practices and transform your DevSecOps journey.

[Zero Trust Industry Days 2023](#), October 25-26  
At this hybrid event presenters will contribute their ideas, solutions, and experiences for helping organizations form a zero trust implementation that meets their mission goals, budget, and time frame.

**[See more events »](#)**



## Upcoming Appearances

[InfoSec World 2023](#), September 25-27

The SEI's Randy Trzeciak, Tom Scanlon, Hasan Yasar, Tim Chick, Catherine Bernaciak, Clarence Worrell, and Mark Sherman will speak on a variety of topics.

[Grace Hopper Celebration](#), September 26-29

The SEI is a sponsor of the Grace Hopper Celebration, the world's largest gathering of women technologists. It is produced by AnitaB.org and presented in partnership with ACM.

[See more opportunities to engage with us »](#)

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## Upcoming Training

[Designing Modern Service-Based Systems](#)

October 17, 2023 (SEI Live Online)

[Design Guidelines and Patterns for Microservices](#)

October 24-27, 2023 (SEI Live Online)

[Assessing Information Security Risk Using the OCTAVE Approach](#)

December 12-14, 2023 (SEI Pittsburgh, PA)

[See more courses »](#)

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## Employment Opportunities

[Senior Insider Risk Engineer](#)

[Research Scientist - Advanced Computing Lab](#)

[Accredited Systems Administrator](#)

[All current opportunities »](#)

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