Nuvalence

NUVALENCE TACTICAL WORKSHOP

Boosting Developer Velocity with Generative AI

Workshop Summary

The AI era isn't "on the horizon." It's already here.

Lightning-fast evolutions in generative AI technology are redefining every industry in real-time. If your organization hasn't already started thinking about how generative AI affects your position in the competitive landscape, the time is now.

Forward-thinking technical leaders who want to capitalize on this pivotal moment need strong practical skills to turn generative AI into a competitive advantage. Our intensive one-day "Boosting Developer Velocity with Generative AI" workshop empowers your team with the knowledge, tools, and skills you need to jumpstart your generative AI journey and transform your technology strategy, roadmap, and processes for the AI era.

Participants will learn from expert strategists, engage in thought-provoking discussions and hands-on workshops, and collaborate with fellow technologists interested in realizing generative AI's transformative impact.

Workshop At-A-Glance

Duration
6.5 hours

Participants
Architects and Technical Leads

Location
Virtual/Webex

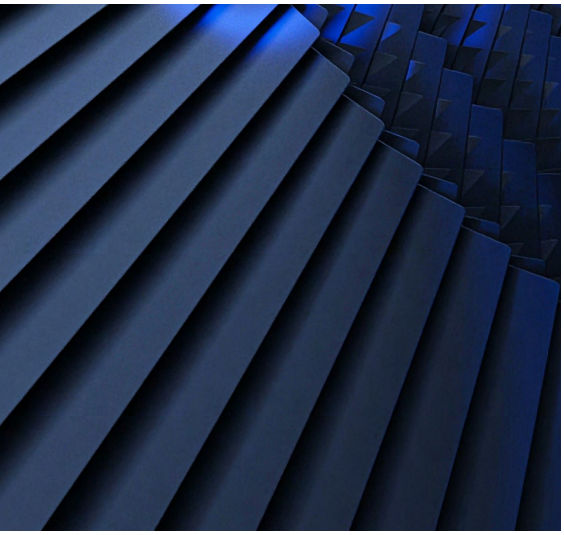
Don't miss this opportunity to accelerate your organization's innovation capabilities and maintain a competitive edge in the AI-driven landscape.

LET'S TALK

Workshop Mechanics

Our workshops are interactive and immersive, designed to equip you with the knowledge and skills necessary to effectively design and implement generative AI (GenAI) solutions in your organization. In a dynamic world where innovation drives progress, the integration of generative AI holds unparalleled potential for developers seeking to supercharge their development velocity and drive real change within the organization. Tailored exclusively for developers and technical leads, this workshop offers an experience focused on harnessing the capabilities of generative AI to amplify your team's engineering speed and efficiency.

Preparing for the Workshop



The workshop's format encourages collaboration and learning. To maximize the value of the experience, participants should come prepared to discuss specific use cases, challenges, or opportunities where AI could enhance or accelerate their development process. AI can be complex, and participants should be willing to engage with new concepts, experiment, and collaborate with others.

Prior to the workshop, participants must:

- Set up their preferred development environment on their devices (including programming languages, libraries, and tools).
- Establish access to required cloud-based AI services (ex. Google Cloud Vertex AI and Duet AI, Azure AI, GitHub Copilot, Amazon Bedrock and Q) to follow along with the demonstrations and experiments.
- Review the *AI Cheat Sheet* provided by Nuvalence. This condensed reference guide offers a preview of the topics covered in the workshop, including a summary of key concepts, techniques, reference architecture, and tooling (including links to FOSS tools by Nuvalence) related to GenAI.

What to Expect

Preparation is key to an optimal experience. Nuvalence has practical, real-world experience using generative AI to expedite development while delivering measurable outcomes. Instead of starting with a "blank sheet of paper," we will come to the workshop ready to help you identify high-value generative AI use cases and assess them for maximum impact and return on investment, ensuring that your organization can prioritize the most promising initiatives.

Sample Agenda

Session 1
60 mins

Generative AI Level-Set

- **Overview of Generative AI:** Explore the world of generative AI, its current capabilities, and future potential through industry examples.
- Understanding Large Language Models (LLMs).
- **Current State and Future Outlook:** Understand the latest advancements and trends shaping the future of generative AI.

BREAK (10 mins)

Session 2
60 mins

Prompt Engineering

- Learn how prompt engineering drives AI model behavior.
- Discover how well-crafted prompts influence the quality and relevance of AI-generated outputs.
- Break down the components of a successful prompt: context, instructions, constraints, and examples.
- Learn effective prompt construction techniques.
- Understand the role of data generation, content creation, and user interaction in GenAI-powered apps.

BREAK (10 mins)

Session 3
45 mins

Hands-On Workshop - Applying GenAI To Software Development

Engage in hands-on exercises that explore opportunities to leverage GenAI in your software development practice, with an emphasis on available tooling at your organization.

Highlights include:

- Tooling and use cases for QA and documentation, CI/CD and IaC scripts, and more.
- Using GenAI to write acceptance criteria, enhance code comprehension, streamline refactoring, and manage technical debt.
- Software architecture modeling, leading to code.

Session 4
15 mins

Nuvalence Case Study

- Learn how Nuvalence uses GenAI tools to accelerate development and improve quality.
- Introduction to Nuvalence's FOSS cooperative AI toolkit.

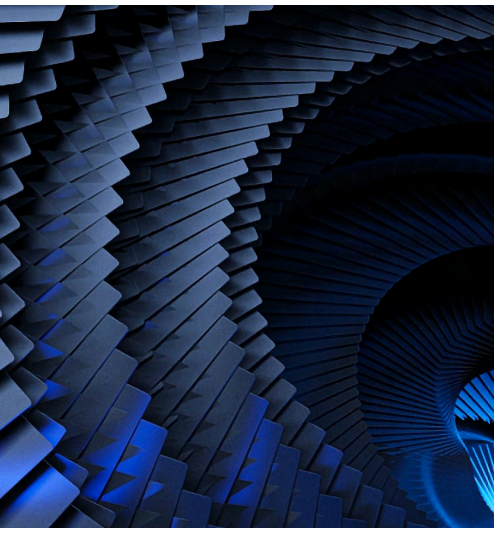
BREAK (10 mins)

Session 5
90 mins

PARALLEL TRACK - Choose one of the following two options:

Hands-On Workshop Option A - Incorporating GenAI Into Your Applications

Engage in hands-on exercises to enhance an application by leveraging LLMs, and explore use cases for innovative app feature creation by integrating with GenAI.



Highlights include:

- Build a surface-level interaction with an LLM.
- Chat vs. Completion vs. Images vs. Code.
- Cost and Latency Optimizations.
- Safety and Quality Tuning.

Hands-On Workshop Option B - Orchestrating GenAI Applications

Engage in hands-on exercises implementing LLM-based systems, and dive into advanced LLM orchestration for specialized language processing.

Highlights include:

- Designing a RAG pipeline to produce the desired output.
- LLM orchestration for more versatile, context-aware, and specialized language processing.
- Approaches to language model orchestration.
- Techniques to manage model outputs, handle inconsistencies, and ensure coherent conversations.
- Explore AI tools like LangChain, LlamaIndex, and Semantic Kernel.

BREAK (10 mins)

Session 6
30 mins

Risk, Ethics, Compliance

- Learn to recognize common security vulnerabilities in AI and AI-generated code, and discuss strategies and techniques to defend against threats.
- Gain insights into the ethical considerations surrounding AI technologies.
- Understand the importance of adhering to regulatory frameworks and compliance standards in AI development.
- Learn to identify potential risks (bias, privacy, IP infringement) and unintended consequences associated with GenAI.

Session 7
30 mins

Q & A

- Open Discussion

Post-Workshop Deliverables

Nuvalence will use the insights from your workshop to create a customized Generative AI Strategy Package, which includes:

#1 | Executive Summary

This 1-2 page artifact summarizes actionable recommendations and technology strategies discussed during the workshop, tailored for implementation within your organization.

#2 | Workshop Packet

A curated package containing presentation slides, workshop materials, and reference documents used during the sessions; workshop notes, including a detailed theme and discussion summary; and an updated copy of the *AI Cheat Sheet*.