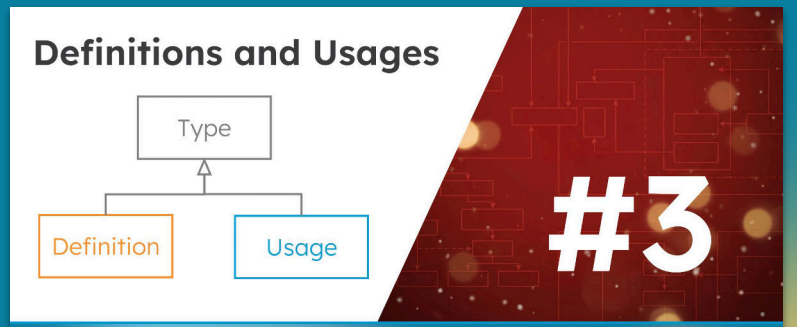

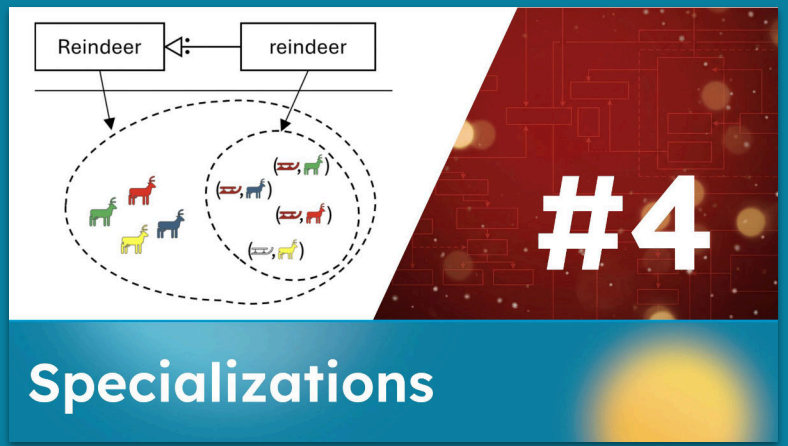

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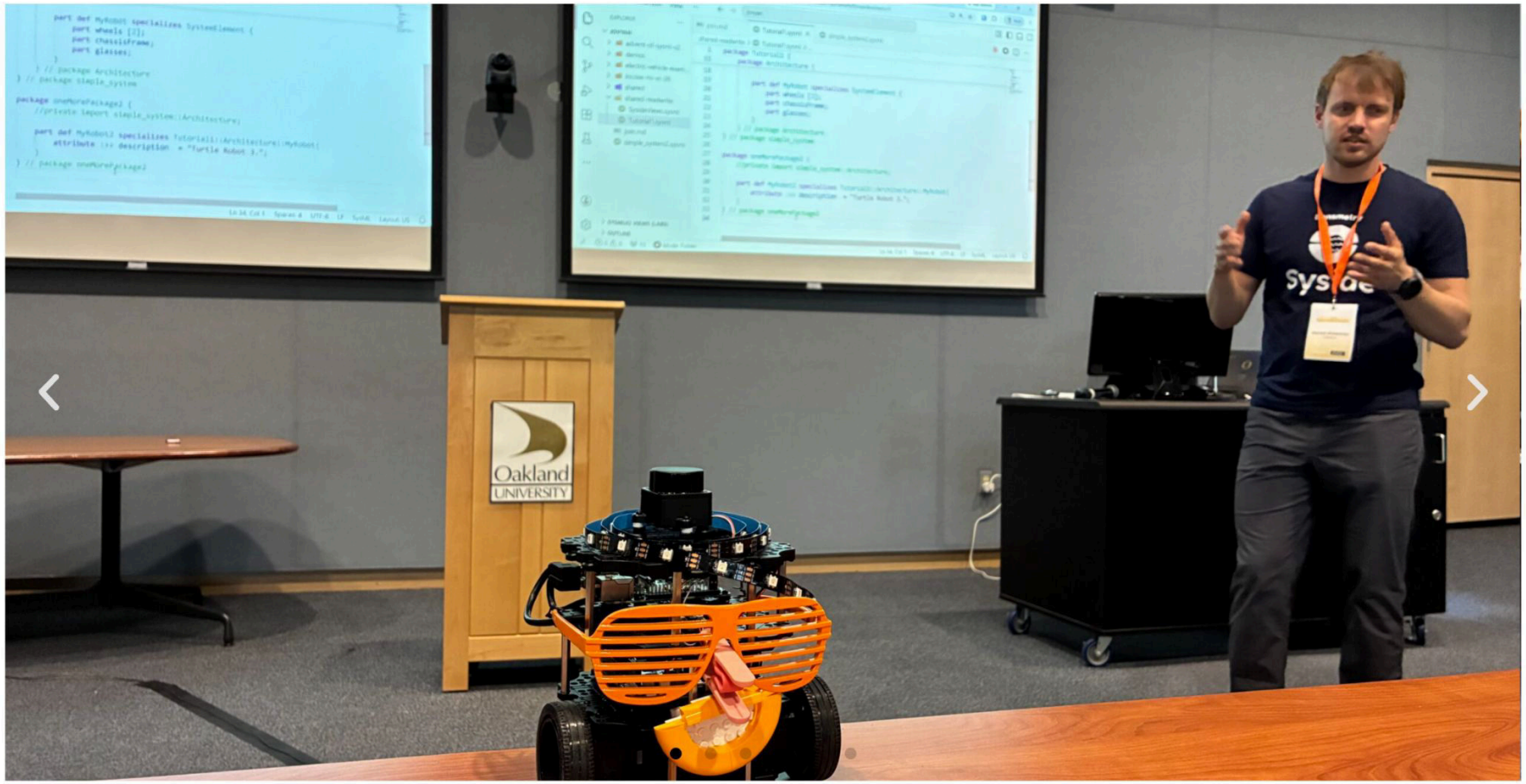

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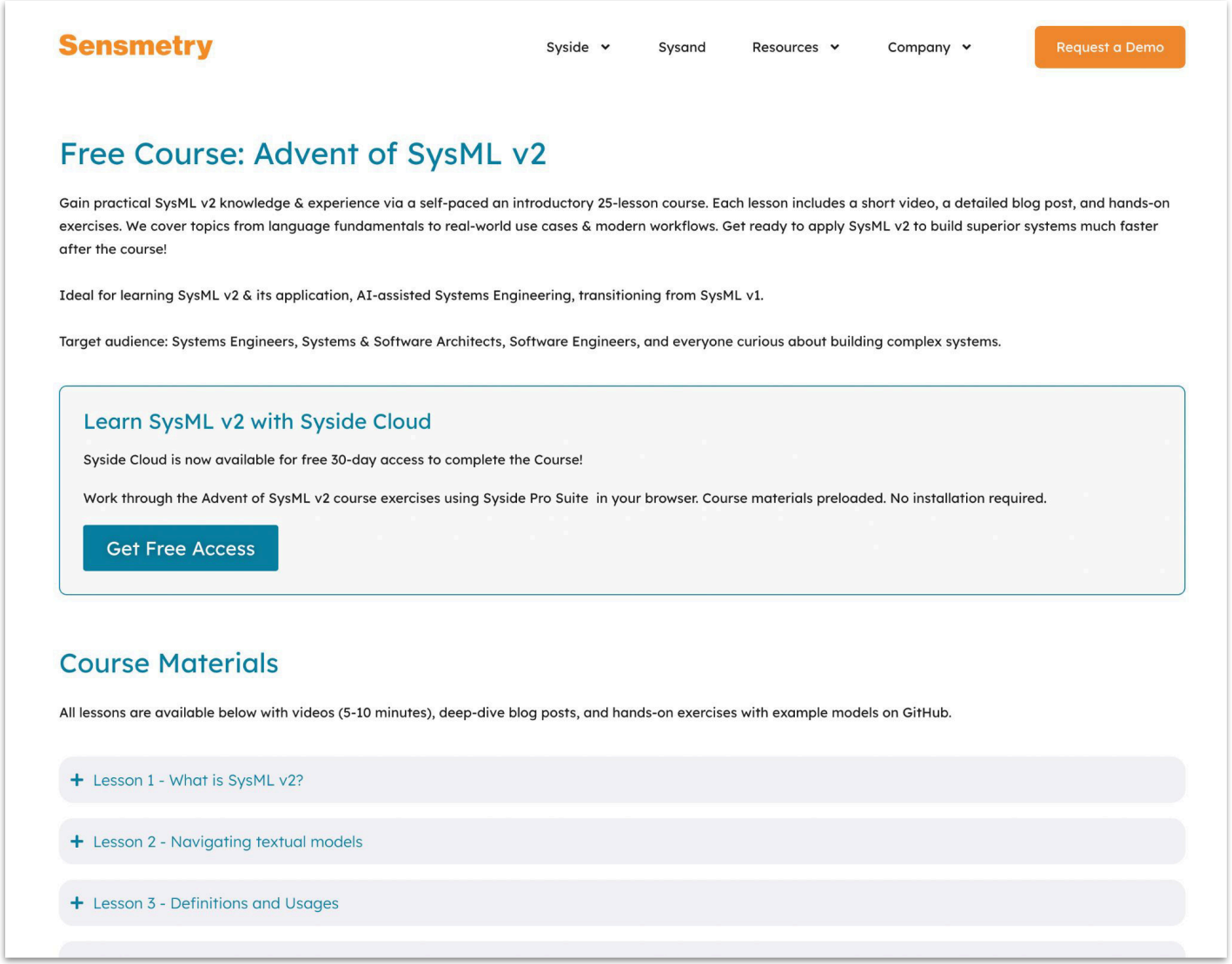
For community: Meet the Advent of SysML v2



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25 lessons, 4 weeks: from fundamentals to verified requirements

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Every lesson: watch 5-10 min, read, then model

Advent of SysML v2 | Lesson 6 – Version Control with Git

2025-12-06, Simas Vaitkevicius

Hello and welcome back to the Advent of SysML v2 – a daily, hands-on mini-course designed to bring you up to speed with the new SysML v2 standard and the modern Syside tooling that makes you productive from day one.

By the end of this lesson, you will:

- Discover Git and why it matters for SysML v2
- Learn how to commit model changes
- See Git diff in action

Git + SysML v2

If you've worked with SysML v1, you know that models are tightly coupled to the tool you're using. Most tools store models in proprietary formats that aren't meant to be read or edited by hand. Even when you can see the underlying files, they're often machine-generated representations that don't work well with version control.

– Lesson 6 - Version Control with Git

We introduce Git and why it matters for SysML v2, learn how to commit model changes and see Git diff in action.

Blog Post
Read the deeper dive on today's topic: Version Control with Git

Video
Watch today's topic on YouTube: Version Control with Git

Materials
Find the models on GitHub: Version Control with Git

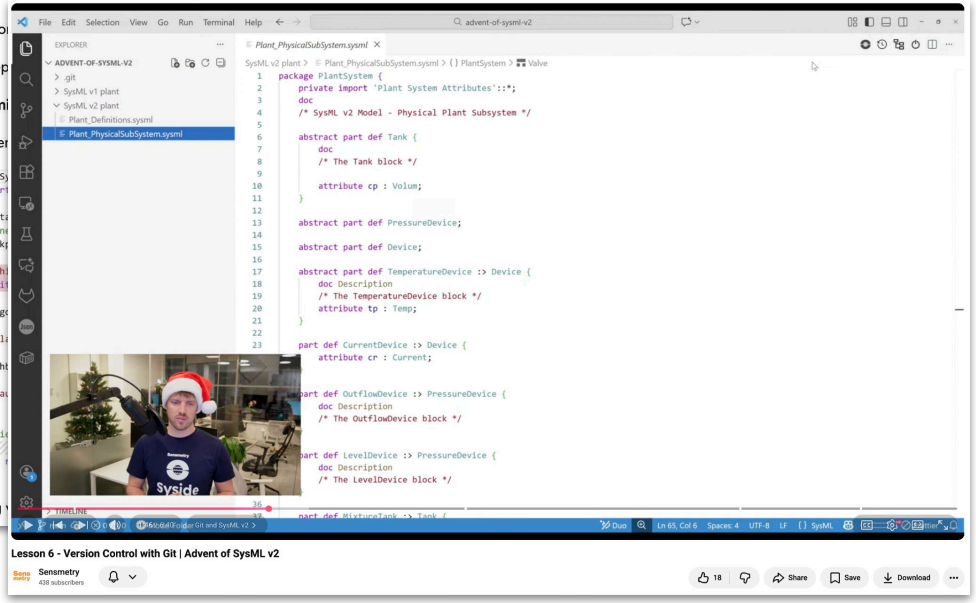
Your first Git workflow

Now that you understand why Git and SysML v2 work so well together, let's see how easy it is to get started. If Git sounds intimidating, don't worry. You won't touch the command line or write code. Your modeling environment's built-in Source Control makes it as simple as a few clicks.

Here's the basic wo

1. **Initialize** your rep
2. **Stage and commi**
3. **Review diffs** wher

Git is now tracking



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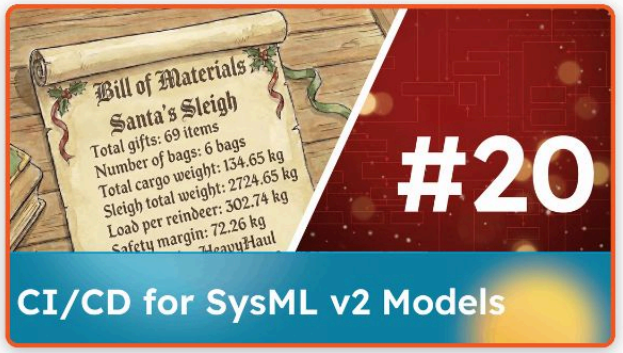
Course goes beyond the SysML V2 language specification

1 **Version control**
Lesson 6 · Models in Git

2 **Reuse libraries**
Lesson 9 · Sysand package manager

3 **Calculate**
Lessons 15–16 · Evaluate & roll up values

4 **Simulate**
Lesson 19 · Run the state machine



5 **Automate checks**
Lesson 20 · CI/CD on every commit

6 **Verify requirements**
Lesson 24 · Checked against the design

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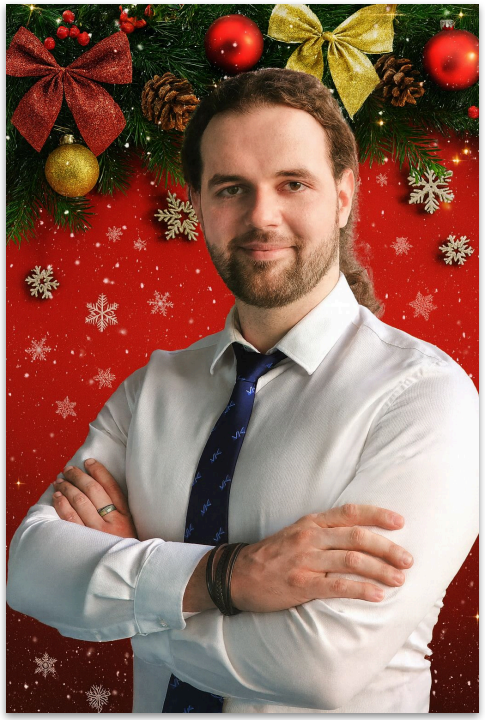
People behind the Advent of SysML v2



- Co-author of the KerML specification and The SysML v2 Book
- Key contributor to the SysML v2 and KerML standards
- Co-chair, KerML 1.1 Revision Task Force; leads the Formal Methods and Conformance Working Groups (OMG)
- Associate professor in formal methods and MBSE

Vince Molnár

- Systems engineer, controls and model-based software background
- 6 years at Jaguar Land Rover: xEV energy management software, ADASIS e-horizon map data
- MEng in Electronics and Electrical Engineering, University of Edinburgh

Kestutis Jankevicius

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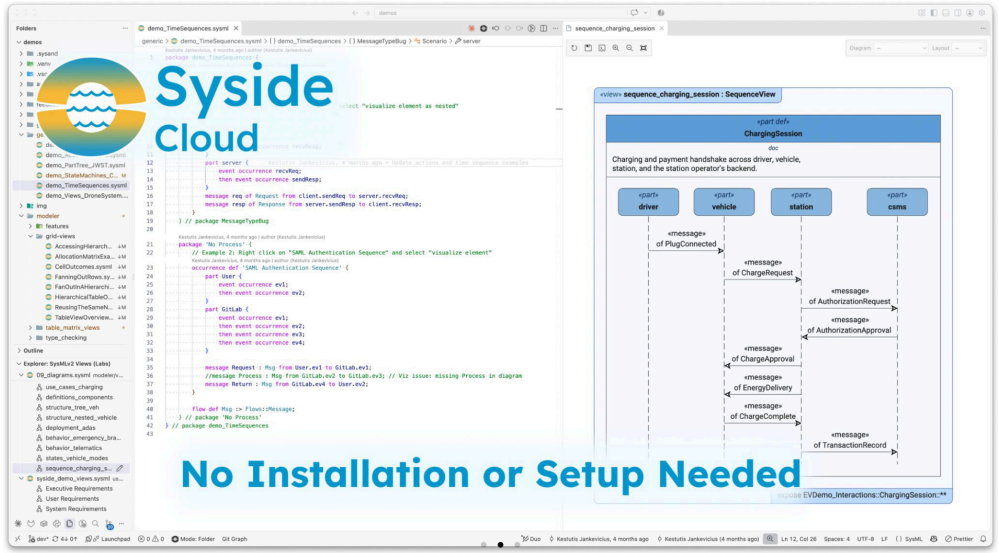
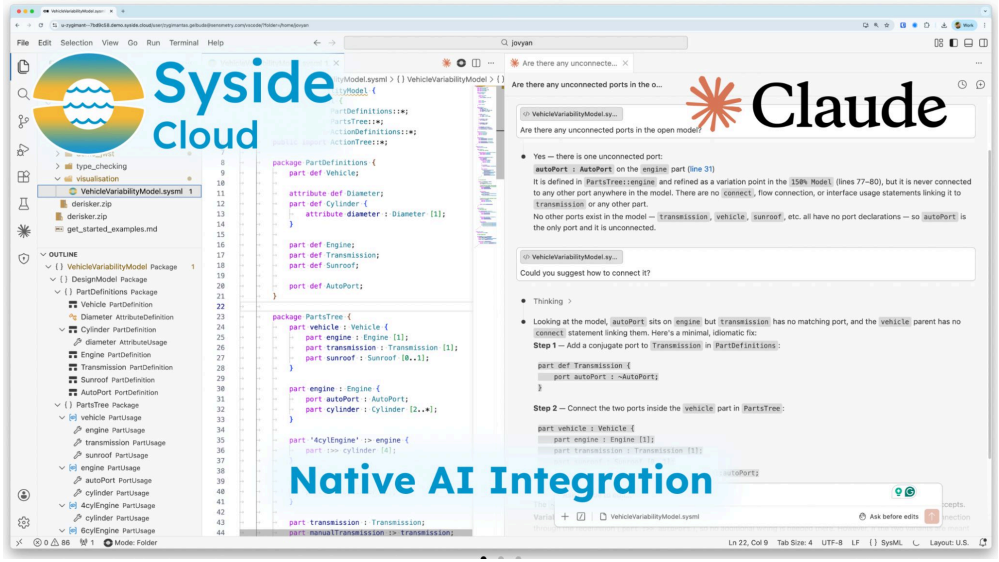
Course Materials

All lessons are available below with videos (5-10 minutes), deep-dive blog posts, and hands-on exercises with example models on GitHub.

+ Lesson 1 - What is SysML v2?





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