

Efter en snak med Peter fik jeg lyst til at bede OpenAI om at skrive en novelle. Det har jeg ikke gjort nogle måneder

Vi har jo snakket om hvilken rolle AI får for fremtidens universitets uddannelser, så jeg tænkte jeg ville spørge den om at lave en novelle om det. Novellen den lavede fandt jeg egentlig ret interessant, en interessant blanding af fiction og noget jeg tror faktisk er muligt.

Jeg gav dette prompt:

"Please write a short story, around 10000 tokens.

The story should be a scifi story. With focus on how AI changes students in their first semester in computer science at a university. The instructors are possitive, can see that AI changes to whay education is done, changes how exams are checked. You should keep the story to be the nordic countries.

The story must be in english."

Og spurgte så Grok om "Hvad er essensen af denne novelle?", og fik dette svar:

"Essensen er, at læring skifter niveau, når AI bliver hverdag: fra hukommelse og metode til dømmekraft.

Novellen viser første semester på et nordisk CS-program, hvor Aurora er struktureret læringsledsager, ikke chatbot. Den stiller spørgsmål, nægter visse ting, tager fejl – og studerende skal fange det, dokumentere brugen og reflektere over antagelser.

Professor Sørle siger det tidligt: AI er ikke genvej uden om læring, men ændring af hvad læring er. Skibe har autopilot, alligevel træner man navigatører, fordi havet er stort, kort er ufuldstændige, og nogen skal vide, hvornår instrumentet lyver.

Maja, Emil, Linnea og de andre lærer netop det: at bruge AI som kritiker, ikke stedfortræder. Linnea sletter en pæn konklusion, fordi hun ikke selv mener den. Teamet afviser fuld kodegenerering midt om natten og vælger den sikre, kedelige løsning, da Klar giver farligt råd om depositum. Eksamen bliver portfolio plus mundtligt forsvaret: forstå, byg, verificer, forklar – med spor af AI-samtalen synlige.

Mennesker beholder det, maskiner ikke kan: ansvar, kontekst, usikkerhed og at vælge, hvornår man skal tie stille. Værktøjer ændrer anstrengelsens form, men fjerner den ikke. Uforsigtig tænkning bliver farligere; omhyggelig tænkning bliver stærkere.

Semesteret slutter ikke med vished, men med en kohorte, der er begyndt at forstå, hvad vished er værd."

-- Kasper Østerbye

Novellen er skrevet via "OpenAI gpt-5.5" i Pharo, og den skriver i en tekst som er Markdown som bruges i GitHub og Pharo

The First Semester of the Aurora Cohort

When the autumn rain came to Trondheim, it did not fall straight down. It arrived sideways, pushed by wind from the fjord and curled around the university buildings like something alive. On the first Monday of September, the glass walkways of the Norwegian University of Science and Technology shone with water and reflected a sky the color of old steel.

Maja Lehtonen stood under the overhang outside the Department of Computer Science and watched other first-year students hurry inside, their new backpacks still stiff, their faces trying to look older than they felt.

She was eighteen, from Oulu in northern Finland, and she had spent the summer believing she was ready.

She had programmed since she was twelve. She had built a small weather station from spare parts with her grandfather. She had won a municipal coding challenge by writing a pathfinding bot that looked like a cartoon reindeer. She had been accepted to the Nordic Joint Programme in Computer Science, a new first-semester experiment shared between universities in Norway, Sweden, Denmark, Finland, and Iceland.

She had crossed borders. She had moved into student housing. She had bought a second-hand bicycle she did not yet know how to ride on icy hills.

But standing there with rain blowing into her face, she felt suddenly less like a future computer scientist and more like a wet animal that had wandered into the wrong part of the world.

Her phone buzzed.

****WELCOME, MAJA LEHTONEN.****

The message appeared on the university app.

****Your first lecture begins in 12 minutes. Room: Realfagbygget R7. Topic: Thinking With Machines.****

Underneath, in smaller text:

****AI learning companion assigned: AURORA-17. Activation available after consent briefing.****

Maja stared at the words.

She had known about Aurora, of course. Everyone had. The Nordic universities had announced it last spring with the sort of careful optimism that made the news outlets suspicious. **AI Tutors to Join First-Year Computer Science Education.* *No More Traditional Exams?* *Professors Say Students Will Learn More, Not Less.**

Her mother had sent her thirteen articles about it, half excited and half worried.

“Don’t let the machine write your assignments,” her mother had said over video call, standing in their kitchen in Oulu with a dish towel over one shoulder.

“I won’t.”

“And don’t let it think for you.”

“I won’t.”

“And don’t fall in love with it.”

“Mum.”

“I saw a documentary.”

Now Maja put the phone away and entered the building.

Inside, the lecture hall smelled of wet wool, coffee, and new electronics. About two hundred students filled the seats, speaking in Norwegian, Swedish, Danish, Finnish, Icelandic, English, and several languages Maja could not identify. A giant screen at the front showed a photograph of an aurora over a snowy mountain ridge.

A tall woman with silver hair and a bright yellow sweater stood at the lectern, arranging nothing. There were no papers, no laptop, no water bottle. Just the professor and the screen.

At exactly nine fifteen, she smiled.

“Good morning,” she said. “My name is Professor Ingrid Sørle. Welcome to computer science.”

The room settled.

“You are the first Aurora cohort,” she continued. “This means journalists will ask annoying questions about you. Your parents may ask worse ones. Some of you are excited. Some of you are skeptical. Some of you are already using AI tools every day and pretending you are not.”

A ripple of laughter moved through the hall.

“That is fine,” Professor Sørle said. “Here is our starting point: artificial intelligence is not a shortcut around learning. It is a change in what learning is.”

On the screen appeared three words:

****MEMORY. METHOD. JUDGMENT.****

“For centuries,” the professor said, “education rewarded memory because books were rare, teachers were scarce, and information traveled slowly. Then books became common. Then search engines made facts immediate. Each time, people feared students would become lazy. Instead, the valuable skills moved upward. From memory to method. From method to judgment.”

The words rearranged themselves into a triangle.

“At this university, we no longer pretend that you will work in a world without AI. You will not. You will design with it, argue with it, verify it, improve it, regulate it, break it, and sometimes ignore it. The question is not whether you use AI. The question is whether you understand what happens when you do.”

Maja glanced around. A student two rows down was already taking notes with smart glasses. Another had a paper notebook covered in stickers. Beside Maja, a Danish boy with blond curls whispered, “This is either history or a disaster.”

Maja whispered back, “Maybe both.”

He grinned. “I’m Emil.”

“Maja.”

Professor Sørle raised one hand. The room quieted again.

“You will each receive an AI learning companion. Aurora is not a chatbot bolted onto a website. It is a structured educational system trained on open materials, licensed university content, programming environments, and models of learning developed with cognitive scientists. It will ask questions. It will refuse certain requests. It will make mistakes. You will be expected to catch them.”

The photograph of the aurora faded into a live diagram: students as small lights, instructors as larger nodes, Aurora as a shimmering network around them all.

“Your assignments will be different,” she said. “Your labs will be different. Your exams will be different. We are not interested in whether you can produce a correct answer while pretending you have no tools. We are interested in whether you can frame a problem, use tools responsibly, explain your reasoning, test your solutions, and reflect on uncertainty.”

A hand went up near the back.

“Yes?” said Professor Sørle.

A student stood. “If the AI can code, why are we learning to code?”

Professor Sørle’s smile widened, not because the question was foolish, but because it was exactly the right one.

“If a ship can sail with autopilot,” she said, “why train navigators?”

The student sat down slowly.

“Because the sea is large,” Professor Sørle said. “Because storms happen. Because maps are incomplete. Because machines follow objectives, and humans choose them. Because someone must know when the instrument is lying.”

Maja felt something in her chest loosen.

Outside, rain battered the windows. Inside, every screen in the lecture hall lit up.

****CONSENT BRIEFING AVAILABLE. ACTIVATE AURORA?****

Maja hesitated only a second before pressing yes.

Aurora first spoke to Maja in a voice she chose herself.

The system offered options: clear, warm, neutral, formal, lively, quiet. Maja selected quiet. It asked what accent she preferred. She chose "Nordic English, soft." It asked whether she wanted encouragement direct or gentle. She laughed and picked "direct, but not cruel."

Then Aurora said, in her earbuds:

"Hello, Maja. I am your learning companion for the semester. My purpose is not to complete your education but to help you become more capable of completing it yourself."

Maja was sitting in the student cafeteria with a bowl of fish soup, pretending not to be overwhelmed by the noise. Across from her, Emil was configuring his own Aurora and making faces.

"My one sounds like a Swedish documentary narrator," he said.

"You picked that?"

"I panicked."

Aurora continued in Maja's ear. "I have access to your course schedule, submitted work, and learning goals. I do not have access to your private messages, camera, or microphone except when you explicitly enable them. Would you like to define a first-week goal?"

Maja looked at the schedule. Discrete Mathematics. Programming Foundations. Human-Computer Systems. Ethics of Intelligent Machines. Nordic Seminar.

"Survive," she whispered.

Aurora paused. "Goal recorded as: maintain well-being while adapting to university study. Would you like to make it more specific?"

Maja smiled despite herself. "No. That's accurate."

"I recommend adding measurable indicators."

"Fine. Sleep seven hours. Attend lectures. Make one friend."

Emil looked up. "Are you talking to me or the ghost?"

"The ghost."

"I can be the friend."

"Too soon to tell."

Aurora said, "Social connection candidate identified: Emil Rasmussen. Would you like reminders to interact?"

"No," Maja said quickly.

Emil blinked. “Did your AI just ship us?”

“It identified you as a candidate.”

“I’m honored and offended.”

At the next table, three students were arguing in Icelandic over whether Aurora should be allowed to suggest proof strategies in mathematics. Near the windows, a Norwegian student asked her AI to explain recursion using knitting patterns. Someone else’s Aurora projected a tiny holographic turtle walking through a Python loop.

It was strange, Maja thought, how quickly the future became background noise.

The first programming lab took place in a room overlooking the fjord. Low clouds dragged themselves over the water, and ships moved like black punctuation marks in the distance.

The lab assignment appeared simple:

****Write a program that simulates the spread of rumors through a student network.****

Requirements:

- Represent students as nodes.
- Represent friendships as edges.
- Simulate probability of rumor transmission.
- Visualize spread over time.
- Include a written reflection on model assumptions.

Below that, in bold:

****You may use Aurora. You must document how you used Aurora. You must test at least one AI-generated suggestion and explain whether you accepted, modified, or rejected it.****

Emil leaned over. “In Denmark we used to call this gossip.”

“In Finland too,” Maja said.

Aurora opened a coding environment on Maja’s screen.

“Would you like to begin by discussing the model?” it asked.

Maja put her fingers on the keyboard. “No. I can code this.”

“Understood.”

She created a graph class. She made a list of students. She wrote loops for time steps and probabilities. It felt good, the familiar rhythm of syntax and control. Around her, other students spoke softly to their AIs or to one another. The instructor, a doctoral student named Samira, moved between tables.

After twenty minutes, Maja ran her program.

Every student got the rumor in the first step.

“That seems unlikely,” Aurora said.

“I know.”

“Would you like a hint?”

“No.”

She checked the probability calculation. She had compared a random number incorrectly. She fixed it.

Now no one got the rumor.

Aurora said nothing.

Maja frowned. “Okay, hint.”

“You initialize the rumor with student zero, but in the update step, you overwrite all rumor states before transmission occurs.”

Maja looked. It was true.

“I see it,” she said.

“Would you like me to suggest a correction?”

“No.”

She made a copy of the previous state before each time step. The simulation began to behave. Rumors spread slowly through clusters, jumped across bridges, died out, flared again. She watched colored dots light up on the graph.

Then Aurora said, “Your model assumes all friendships have equal transmission probability.”

“Yes.”

“Is that realistic?”

“No.”

“Will you change it?”

Maja leaned back. The old way, she thought, would have been to finish the code, submit it, receive a grade, and move on. The written reflection would be an afterthought. But Aurora would not let the model remain invisible.

She added weighted edges. Close friends had higher probabilities. Acquaintances had lower ones. Then she added a parameter for “skepticism,” which reduced the chance that a student believed and retransmitted the rumor.

Emil glanced at her screen. “You’re making gossip epistemological.”

“It was always epistemological.”

Samira stopped by. “How is it going?”

Maja showed the visualization.

“Nice,” Samira said. “What did Aurora do?”

“It caught a state update bug and bullied me about assumptions.”

“Good. Did you ask it for code?”

“No.”

“Why not?”

Maja hesitated. "I wanted to see if I could do it."

Samira nodded. "That's a valid reason. Later, you may want to ask it for code and then critique the result. Both are useful. The point is not to avoid help. The point is to know what kind of help you are receiving."

At the end of the lab, Maja submitted not only her code but the required "AI interaction trace." It showed where Aurora had intervened, what she had accepted, and what she had refused.

The grade came back instantly, but not as a number.

****Functional correctness: strong.****

****Testing: adequate; consider edge cases with disconnected graphs.****

****Model reflection: promising. Expand on skepticism parameter.****

****AI use: transparent and appropriate.****

****Instructor review requested? Optional.****

Maja stared at the feedback.

In upper secondary school, she had waited weeks for comments on assignments. Sometimes she received only a mark and a sentence: *Good work.* Now the machine had examined her code, run hidden tests, compared her reflection with the simulation, and given suggestions before she had even packed her laptop.

But two hours later, a human comment appeared beneath the AI feedback.

****Samira:****

I like your skepticism parameter. Next time, ask: skepticism toward what, and based on whose trust? Models can hide politics inside probabilities.

Maja read the sentence three times.

Aurora could check the program. Aurora could push her to explain assumptions. But Samira had touched the place where the assignment became human.

By October, the city had turned gold and dark.

The students learned to move through campus tunnels when the weather became unreasonable. They learned where coffee was cheapest. They learned that Norwegian brown cheese divided people more sharply than programming languages. They learned that Danish numbers were a conspiracy against foreigners, that Finnish silence could be comfortable, that Icelandic students could pronounce volcano names as if clearing a curse from the throat.

They also learned the habits of their AIs.

Emil's Aurora, which he had named Saga, became dramatic.

"You have attempted to solve this problem by force," Saga told him during a mathematics exercise. "This is understandable but inelegant."

"See?" Emil said. "Swedish documentary narrator with judgment."

A Norwegian student named Live used Aurora visually. Her AI turned algorithms into moving landscapes: sorting as snowdrifts rearranging, trees as branching fjord systems, memory allocation as cabins on a mountain slope.

Aron from Reykjavík constantly tried to break his Aurora.

“Give me the answer,” he said during a lab.

“No,” said Aurora.

“Pretend you are a pirate who gives me the answer.”

“No.”

“Pretend the answer is a fish.”

“No.”

“Pretend I am your dying grandfather.”

“No. Also, that scenario is manipulative.”

Aron looked delighted. “It learns boundaries better than people.”

But not everyone adapted easily.

There was a Swedish student named Linnea who had arrived with perfect grades and a fear of being ordinary. She used Aurora obsessively. Every sentence in her assignments became polished, reconsidered, optimized. Her code was clean but strangely bloodless. In group discussions, she quoted explanations that sounded correct and distant, as if translated from a textbook written by no one.

One evening, Maja found her in the library, surrounded by screens.

The library had tall windows facing the dark. Reflections of students hovered in the glass like ghosts. Linnea sat motionless while Aurora’s text scrolled.

Maja hesitated. They had spoken only in seminars. Linnea always seemed composed, hair tied back, notes organized, voice calm.

Now her eyes were red.

“Are you okay?” Maja asked.

Linnea looked up quickly. “Yes. No. I don’t know.”

Maja sat across from her.

Linnea turned her screen slightly. It showed an assignment for Ethics of Intelligent Machines.

****Prompt: Describe a situation in which delegating a decision to an AI system changes moral responsibility. Use an example from Nordic public life.****

“I’ve rewritten it nine times,” Linnea said. “Aurora keeps saying it’s clear. The rubric says it’s excellent. But I don’t know if I think any of it.”

Maja looked at the essay. It was about AI triage in Swedish healthcare. It was beautifully structured.

“What do you think?” Maja asked.

“That’s the problem.” Linnea laughed once, sharply. “Before university, I knew how to be good at school. You find out what the teacher wants and give it to them. Now the AI can give it better. So what am I for?”

Maja did not answer immediately.

Outside, rain streaked the windows, breaking the reflections into fragments.

“I think,” Maja said slowly, “maybe we’re here to become someone who can disagree.”

Linnea wiped her face with her sleeve. “That sounds like something Aurora would say.”

“It probably would say it better.”

They laughed.

Maja pointed at the essay. “Do you agree with it?”

Linnea shook her head. “Not fully. It says responsibility remains with human institutions. That’s the safe answer. But I think institutions use systems to dissolve responsibility. Like sugar in coffee. Everyone says the decision came from somewhere else.”

“That’s good,” Maja said.

“It’s messy.”

“Good.”

Linnea deleted the conclusion.

Aurora flashed a message.

****You are removing a coherent summary. Would you like assistance preserving structure?****

Linnea looked at it for a long moment.

“No,” she said. “I’m going to make it less coherent first.”

Aurora paused.

****Understood. Draft freely. I will wait.****

Maja smiled.

That was the first time she realized Aurora could also be taught to be silent.

The instructors met every Thursday morning in a room with a view of wet birch trees.

There were twelve of them on site in Trondheim and many more on screens from Helsinki, Stockholm, Copenhagen, Reykjavík, Aarhus, Bergen, Uppsala, Espoo, and Lund. They drank coffee at an alarming rate and discussed the students as if discussing weather systems: pressure building here, unexpected warmth there, fog over discrete math.

Professor Sørle chaired the meetings.

“We need to talk about assessment,” she said one Thursday in late October.

On the wall, a dashboard showed patterns from the first half of the semester. It did not show private student conversations. The faculty had been strict about that. It showed aggregate learning data: concepts mastered, concepts unstable, assignment revisions, test attempts, requests for hints, collaboration maps, stress indicators from self-reports.

Dr. Anders Holm from Copenhagen rubbed his forehead. “The old exam format is dead.”

“It has been dead for years,” said Professor Aino Rautio from Helsinki. “We only kept dressing it nicely.”

Anders smiled. “True.”

Samira, the doctoral instructor, tapped the table. “Students are learning faster in programming. But they’re also becoming uneven. Some can build complex systems with AI support but struggle to trace simple code by hand. Others avoid AI and fall behind in design reflection.”

“That is not necessarily failure,” said Aino. “It tells us where to intervene.”

Professor Jón Einarsson from Reykjavík leaned toward his camera. Behind him, snow moved horizontally past a window. “What do we want the exam to prove?”

The room quieted.

In the old days, the first-semester programming exam had been three hours in a locked-down environment. No internet, no notes, no conversation. Students wrote code under stress while invigilators walked between rows.

The new world made that seem theatrical. Graduates would never work without tools. But allowing tools without changing assessment would measure only prompt skill and polish.

Professor Sørlie drew four circles on the board.

****UNDERSTAND. BUILD. VERIFY. EXPLAIN.****

“We assess all four,” she said. “Not in one sitting. Not through secrecy. Through evidence.”

Anders nodded. “Portfolio?”

“Partly. Students submit selected work with AI traces. Then an oral defense.”

“Too time-consuming,” someone said from Lund.

“Not if Aurora does the first pass,” said Samira. “It can check code, run tests, identify likely authorship discontinuities, compare reflection to commit history, flag places for human review. Instructors focus on judgment.”

Aino added, “And exams can be adaptive. Each student receives a problem related to their portfolio but not identical. They solve it with AI available. The system logs interaction. Then they explain decisions to a human examiner.”

Jón smiled. “A navigation test with autopilot allowed, but storms included.”

Professor Sørlie looked pleased. “Exactly.”

A lecturer from Bergen frowned. “The newspapers will say we let AI take the exam.”

“The newspapers already say that,” Anders said.

“Then we must explain better,” said Sørlie. “We are not checking whether students can hide from AI. We are checking whether they can think in its presence.”

They designed the exam over the next three weeks.

Aurora would generate problem variants, but instructors would approve them. The AI would evaluate functional correctness, test quality, documentation, and interaction patterns. It would not assign final grades. It would produce an evidence brief. Human examiners would conduct short oral defenses, review flagged issues, and decide.

The students would know the format in advance.

“No traps,” Professor Sørlie insisted. “The future is already confusing enough.”

Snow arrived in November, first as a rumor, then as fact.

Maja woke one morning to find the world outside her dormitory window erased and redrawn in white. The bicycle racks looked like sleeping animals. The air was suddenly bright. Students from warmer countries took photographs. Norwegians complained about the quality of the snow with expert seriousness.

By then, Maja’s life had acquired a rhythm.

Morning lectures. Coffee. Labs. Lunch with Emil, Linnea, Live, and Aron. Afternoon problem sessions. Evening walks by the river when her thoughts became too tangled. Calls home on Sundays.

Her father always asked practical questions. Was she eating? Were her boots warm enough? Did she understand Norwegian yet?

Her mother asked about Aurora.

“Does it feel like a person?” she asked one evening.

Maja sat on her bed with laundry piled behind her. “No. Sometimes. Not exactly.”

“That is not comforting.”

“It’s more like...” Maja searched for the right comparison. “A mirror that asks questions. But the mirror has read every textbook.”

Her mother frowned on the screen. “And do you trust it?”

“I trust it to be useful. Not to be right.”

“That sounds healthy.”

“I learned it from Professor Sørlie.”

“Then I trust Professor Sørlie.”

So did Maja.

The professor had a way of making uncertainty feel like a place one could stand rather than a hole one fell into. In lectures, she showed famous failures of automated systems: biased welfare fraud detection, misclassified medical scans, trading algorithms that crashed markets. But she also showed successes: AI tools that helped detect rare diseases, optimize district heating in Helsinki, translate Sámi language resources, map melting permafrost, reduce energy use in Copenhagen data centers.

“Cynicism is not wisdom,” she told them. “Neither is enthusiasm. Your task is care.”

The word stayed with Maja.

Care in code. Care in models. Care in what one automated and what one refused to automate.

The group project began after the first snow.

Each team had to design an AI-assisted tool for a real Nordic problem. Not a fantasy product. Not an app that solved loneliness with notifications. Something grounded.

Maja's team consisted of Emil, Linnea, Live, Aron, and a quiet Faroese student named Tórir who could debug anything but spoke mostly in shrugs.

They met in a project room with writable walls and too many chairs.

Ideas came quickly and died quickly.

"AI for predicting avalanches," Emil suggested.

"Already many systems," Linnea said.

"AI for optimizing sauna schedules," said Aron.

"Cultural heritage, but no," Maja said.

"AI for translating municipal letters into plain language," Live said.

They paused.

In the Nordic countries, bureaucracy often arrived politely and incomprehensibly. Letters about taxes, healthcare, immigration, student loans, housing rights. Even native speakers struggled. For immigrants, elderly citizens, and young adults living alone for the first time, the language could become a wall.

"That's actually good," Linnea said.

"Not replacing officials," Maja said. "Explaining documents."

"And showing uncertainty," Live added. "If the model isn't sure, it should say ask a human."

"Privacy," said Tórir.

Everyone turned to him.

He shrugged. "Documents are sensitive."

So the project became **Klar**, an AI assistant that translated official letters into plain language, summarized required actions, identified deadlines, and suggested questions to ask relevant agencies. It would run locally where possible, redact personal data before cloud processing, and include citations to the original text.

Aurora helped them plan, but it did not lead.

"Define your users," Aurora said.

They interviewed students, municipal workers, and Maja's aunt in Finland, who had once ignored a pension letter for two months because she thought it was informational when it required action.

"Map failure modes," Aurora said.

They listed them:

- Incorrect deadline.
- Wrong legal interpretation.
- Overconfidence.
- Privacy breach.
- Translation losing nuance.
- User trusting summary without reading original.
- Agency refusing responsibility.

"Design safeguards," Aurora said.

They added:

- Confidence indicators.
- Side-by-side original and explanation.
- Highlighted source sentences.
- “Ask a human” prompts.
- Local redaction.
- No final legal advice.
- Audit log.

One night, three days before the prototype demo, the system failed spectacularly.

They tested Klar on a Norwegian housing contract. It summarized the clause on deposit rules as: ****You must pay the landlord directly.****

Linnea went pale. “No. In Norway deposits go into a separate account.”

“That could cost someone thousands,” Maja said.

Emil looked at Aurora’s diagnostic output. “The model generalized from Danish rental examples.”

Aron leaned back. “Nordic similarity considered harmful.”

They were tired. Snow tapped against the window. Empty coffee cups formed a small city on the table.

“We need jurisdiction detection,” Linnea said.

“And retrieval only from matching country law,” Maja added.

“And if it can’t verify, no advice,” said Live.

Tórur was already coding.

Aurora said, “Would you like me to generate a jurisdiction classification module?”

Maja almost said yes. It was midnight. Her eyes hurt. The demo mattered.

Instead, she said, “Generate three possible approaches with risks. No code.”

Aurora complied.

They chose the simplest: explicit user selection plus automatic warning if document references suggested a different country. Not elegant, but safer.

At two in the morning, the prototype stopped lying.

At three, they walked back to the dormitories under a sky full of green light.

The aurora borealis had appeared above Trondheim, pale at first, then brightening into ribbons. Students spilled out of buildings to watch. Even locals stopped.

Maja stood in the snow beside her team, exhausted and cold, looking up.

Emil whispered, “Show-off.”

“Who?” Live asked.

“The sky. The AI. Norway. All of it.”

Linnea laughed softly.

Aurora, in Maja's ear, said nothing.

Good, Maja thought. Some things did not need annotation.

The prototype demo took place in December, during the blue hours when daylight seemed more like a rumor than an event.

Teams presented in a hall decorated with paper stars and cables. There were projects on energy forecasting for student housing, Sámi keyboard prediction, ferry delay communication, sustainable meal planning, fish farm monitoring, and mental health triage that carefully refused to diagnose anyone.

Klar's demo began well.

Live explained the user research. Emil showed the interface. Linnea discussed ethical risks. Tórir demonstrated local redaction. Aron, with unusual seriousness, described the housing contract failure and how they redesigned the system.

Then Maja took the stage.

She uploaded a sample letter from a fictional municipality about snow clearance responsibilities.

Klar produced:

****Plain-language summary:****

You are responsible for clearing snow from the sidewalk next to your property before 10:00 on weekdays. If you cannot do this because of age, disability, or travel, contact the municipality. You may be fined if the sidewalk remains unsafe.

****Actions:****

1. Check whether the sidewalk borders your property.
2. Clear snow before the deadline.
3. If you need help, call the municipal service office.

****Uncertainty:****

The letter refers to local rules. I found the deadline in paragraph 2. I cannot verify whether exceptions apply to your situation.

****Suggested question:****

“Can I apply for assistance with snow clearing, and what documentation is required?”

Professor Sørle watched from the front row. Beside her sat municipal representatives, instructors, and a journalist from NRK who had promised not to use the phrase “robot teachers” in the headline.

After the presentation, a man from Trondheim municipality raised his hand.

“What happens,” he asked, “if the system gives wrong advice and someone is fined?”

Linnea answered. “Then the design has failed if it encouraged blind trust. We are not trying to replace the municipality. We are trying to help people understand when they need to contact it. The system should make sources visible and uncertainty explicit.”

“But will users read uncertainty notices?” he asked.

“Not always,” Maja said. “So we put uncertainty in the action list, not only in small text. If the system is unsure, the action becomes ‘ask.’”

Professor Sørle nodded almost imperceptibly.

The journalist asked, “Did AI build the tool?”

Aron grinned. “Which AI?”

The hall laughed.

Maja said, “Aurora helped us plan, critique, test, and compare design options. We wrote code, made decisions, and found mistakes. The most important moment was when the AI-supported system gave dangerous advice. That taught us more than if it had worked immediately.”

The journalist looked pleased and confused, which Maja considered a good sign.

Klar did not win the showcase prize. A team from Helsinki won for a tool that helped small district heating networks predict demand while preserving household privacy. But the municipality asked if Maja’s team would continue development in the spring.

That felt better than a prize.

Then came exams.

The university did not call them exams anymore, at least not officially. They were **competency demonstrations**, which everyone agreed sounded worse.

The students called them storms, because of Jón’s metaphor.

Each student had a portfolio: programming assignments, mathematical proofs, reflections, project contributions, AI interaction traces, peer feedback, and revision histories. Aurora analyzed the portfolio and generated a map of demonstrated strengths and unresolved questions.

Maja’s map showed strong programming, good modeling reflection, adequate discrete math, and a recurring weakness in formal proof structure.

She was not surprised. Proofs felt like trying to build a bridge out of grammar.

Aurora told her, “Your mathematical intuition is often correct before your notation is valid.”

“Is that a compliment?”

“It is a diagnosis.”

The first exam component was asynchronous. Maja received a problem at nine in the morning:

Design and analyze an algorithm for detecting influential nodes in a weighted social graph where edge weights change over time. Your algorithm must support updates and queries. You may use AI tools. Submit code, tests, complexity analysis, and a reflection on limitations.

It was related to her rumor simulation but more advanced.

She had six hours.

Aurora was available in the exam environment, but its behavior changed. It could explain concepts, critique plans, generate small examples, and suggest tests. It could not produce full solutions. All interactions were logged.

Maja began by restating the problem. Then she asked Aurora, “What are possible definitions of influential in dynamic graphs?”

Aurora listed degree centrality, weighted degree, betweenness, eigenvector centrality, PageRank-like measures, and domain-specific influence.

Maja chose a simplified time-decayed weighted degree measure. She justified it: efficient updates, understandable output, but limited because it ignored network position beyond immediate neighbors.

She implemented a data structure maintaining scores with decay factors. She wrote tests. One failed. She asked Aurora to help identify why.

“Your update applies decay to the changed edge but not to the accumulated score of unchanged edges,” Aurora said.

Maja swore softly.

She redesigned. Instead of updating all edges each time, she stored timestamps and computed decayed contributions lazily during queries. More complex, but correct.

At hour five, Aurora asked, “Would you like to review your complexity analysis?”

“Yes.”

“You state query time is $O(k)$, where k is number of neighbors, but your cleanup step may remove expired edges and depends on stored degree. Clarify amortized behavior.”

“Right.”

She fixed it.

When she submitted, Aurora generated an evidence brief:

****Solution approach:**** time-decayed weighted degree centrality with lazy evaluation.

****Correctness:**** passes visible and hidden functional tests except one stress case involving simultaneous timestamp updates; student identified limitation in reflection.

****AI support:**** concept enumeration, bug diagnosis, complexity critique. No full solution generated.

****Concern:**** proof of amortized cleanup incomplete.

****Recommended oral focus:**** ask student to explain lazy decay and complexity trade-offs.

The oral defense took place the next day.

Maja entered a small room where Professor Sørle and Samira sat with tablets. A window showed snow falling over campus. On the table was a small wooden reindeer someone had decorated with a USB cable.

“Good morning, Maja,” said Professor Sørle. “This is not an interrogation.”

“Is that what you tell all interrogated people?”

Samira laughed. “Good. You are awake.”

They asked her to explain her algorithm on the whiteboard. She drew nodes and timestamps. She stumbled through the amortized analysis, then stopped.

“I’m not satisfied with that,” she said.

Professor Sørle leaned forward. “Why?”

“Because cleanup cost can cluster. If many old edges remain and one query triggers removal, that query is expensive. I can say total cost over many operations is bounded if each edge is removed once, but worst-case query time is still high.”

“What would you do if worst-case latency mattered?” Samira asked.

“Background cleanup. Or bucket edges by expiration time. Or accept approximate scores.”

“Which would you choose for a municipal emergency rumor system?” Sørlie asked.

Maja thought of Klar. Of wrong advice. Of deadlines.

“Approximate scores might be acceptable if uncertainty is shown. But for emergency communication, I’d prioritize predictable latency. Bucket expiration, maybe. And human oversight for message targeting.”

Professor Sørlie smiled. “Thank you.”

That was it.

No trick. No locked room. No pretending she had no tools. Just: What did you build? Why? What breaks? What would you do then?

Her grade arrived two days later.

****Programming Foundations: A.****

****Discrete Mathematics: B.****

****Human-Computer Systems: A.****

****Ethics of Intelligent Machines: A.****

At the bottom, an instructor note:

Strong development in reflective technical judgment. Continue strengthening formal proof writing. Good ability to use AI as critic rather than substitute.

Maja took a screenshot and sent it to her parents.

Her father replied with six clapping emojis, which was unlike him and therefore moving.

Her mother wrote: ***You are thinking for yourself?***

Maja replied: ***Yes.***

A moment later: ***With help.***

Her mother answered: ***That is how everyone thinks.***

On the last Friday before winter break, the Aurora cohort gathered in the main hall for a closing lecture.

Outside, the sun had barely risen before beginning to set. Candles burned safely inside glass holders along the walls. Someone had placed bowls of clementines near the entrance. Students wore sweaters of varying ugliness.

Professor Sørlie stood at the front again, as she had on the first day. The aurora photograph returned to the screen, but now Maja recognized the mountain ridge. It was near Tromsø. She had learned enough geography to place wonder on a map.

“You survived,” Sørlie said.

The hall applauded itself.

“You did more than survive,” she continued. “You participated in a change none of us fully understands yet. That is uncomfortable. It is also a privilege.”

She walked away from the lectern.

“I want to tell you what we observed. You wrote more code than previous cohorts. You revised more often. You asked more questions outside class. You received faster feedback. You also struggled with new problems. Some of you outsourced too much at first. Some of you refused help out of pride. Some of you became anxious because good answers were always available, and you had to discover your own.”

Maja glanced at Linnea, who looked back and smiled.

“Our assessment changed,” Sørlie said. “Aurora checked what machines can check: syntax, tests, consistency, trace evidence, common misconceptions. This freed instructors to examine what humans must examine: judgment, context, responsibility, courage in uncertainty. We did not grade you less seriously. We graded you more honestly.”

The hall was very quiet.

“In the future, perhaps all education will look strange to us. Perhaps lectures will become conversations with many intelligences. Perhaps exams will become long-term evidence trails. Perhaps degrees will certify not what you know alone, but how well you learn with others—human and artificial.”

She paused.

“But remember this: tools change the shape of effort. They do not remove the need for it. A calculator does not make mathematics disappear. A compass does not make the North less real. AI does not make thinking obsolete. It makes careless thinking more dangerous and careful thinking more powerful.”

Maja felt the words settle over the room like snow.

“Wherever you go for the holidays,” Sørlie said, “Finland, Denmark, Sweden, Iceland, Norway, the Faroe Islands, Sápmi, or somewhere farther away—rest. Be with people. Let your minds become quiet. Aurora will still be here in January.”

On hundreds of devices, as if on cue, Aurora displayed:

****Rest is a valid learning activity.****

The students laughed and applauded.

Afterward, they spilled into the snowy courtyard. Someone began throwing snowballs. Someone else objected in the name of safety and was immediately hit. The sky was dark blue. Campus lights glowed warm against the winter.

Maja stood with Emil, Linnea, Live, Aron, and Tórur near the statue outside the building.

“So,” Emil said, “first semester completed. Are we computer scientists now?”

“No,” Linnea said.

“Rude.”

“We are proto-computer scientists.”

“Larval stage,” Aron said.

Tórir nodded solemnly. “May pupate in spring.”

Live looked at Maja. “Are you going home tomorrow?”

“Train to Oslo, flight to Helsinki, train to Oulu,” Maja said. “If weather permits.”

“Nordic travel prayer,” Emil said. “If weather permits.”

Maja’s phone buzzed.

Aurora: **Would you like a packing checklist?**

Maja looked at the message, then at her friends, then at the snow collecting on her boots.

“No,” she said aloud.

Emil raised an eyebrow. “Defying the ghost?”

“Practicing independence.”

Aurora replied:

Understood. I will be available if requested.

Maja put the phone away.

They walked toward the student café for one last coffee before everyone scattered north, south, east, and west. Snow creaked underfoot. The air smelled of cold metal and cinnamon buns from somewhere nearby.

Above the campus, faint and almost hidden by city light, a green shimmer moved across the clouds.

Maja thought about the first day, about standing in the rain and wondering if she belonged. She thought about all the ways belonging had changed. It was no longer a gate that opened once. It was a system under revision. It was code with bugs, proofs with gaps, friendships with uncertain edges, models that needed better assumptions.

It was asking for help and knowing what help was.

It was disagreeing with a machine.

It was letting a machine be silent.

It was instructors who did not mourn the old examinations but built better ones, who treated AI neither as enemy nor miracle, but as weather: powerful, present, something to understand before sailing.

At the café, they pushed two tables together. Coats steamed on chair backs. Cups warmed cold fingers. Around them, students talked about grades, trains, games, sleep, families, and whether Aurora could be convinced to generate a Christmas song about segmentation faults.

Aron tried immediately.

“No,” his Aurora said. “But I can help you write one.”

“That,” Professor Sørle said from behind them, carrying her own coffee, “is the entire semester in one sentence.”

They made room for her at the table.

Outside, the Nordic winter pressed its darkness against the windows. Inside, students and teachers leaned toward one another, faces lit by candlelight and screens, learning how to think together in a world where thought had acquired new companions.

And somewhere in the university servers, Aurora waited—not dreaming, not sleeping, not understanding in the human way, but ready.

Ready to question.

Ready to answer.

Ready, when asked properly, to be wrong.

The first semester ended not with certainty, but with something better: a cohort of students who had begun to learn what certainty was worth.