

## You, Robot, Future

Imagine this is the future - don't worry about how many years in the future, maybe two, or three, or a hundred years - and you are a computer scientist working for a tech company. You and your research team have been trying to program an Artificial Intelligence. A real AI, not those dumb computer systems that lie about their non-existence intelligence. Your boss yelled at you last week after not seeing enough progress and threatened to throw you back to your first job as a clerk of that small, customer-less bakery down the street. So, this afternoon, you tell your team "we need to get this thing done!"

"Don't worry too much, okay?" One of your two team members, Dylan, the assistant programmer who has a beer belly so large that his belt might snap anytime, says while still chewing a cheeseburger. "The company won't fire you. You are too important."

"What if they do, huh? What if they have the guts to fire me?" You shout at him.

Meanwhile, your senior programmer, Rica, a young woman with hair dyed in bright blue and only wearing a pink camisole and shorts that couldn't cover half of her thigh, is lying on her table like a drunkie and pressing the keyboard as slow as a sloth. She has only completed nine hundred thousand lines of code, and that is totally unacceptable according to your standard.

"Hey, hey, hey, princess," you exclaim as you walk over to her and slap her head. "Wake up and work."

"I'm thinking, okay?" She replies with a grunt. "I'll get this done in time."

“In time?” You slam your fist down on her table. “How can you finish the remaining twenty million lines of code in a week?”

“Forgot about the code generator?” She turns her heavy head at you.

“Yes, but you can’t rely on that, and it doesn’t just spill out a million codes in a second...” You pause after sniffing the pungent scent ascending from her. “You were drinking again?”

“Drinking helps!” She objects while pointing a finger at you, but you just sigh after seeing her pointing at the totally opposite direction.

“Relax,” Dylan adds. “She’s the best in this world. A spaceship is still a spaceship when you replace human pilots with auto-pilot. Auto-pilot won’t turn a spaceship into a toilet.”

“That doesn’t even make sense,” you say while giving him a weird look.

He shrugs and wipes his ketchup-covered hands on his pants and continues typing something into the computer.

Outside your lab, a small, four-wheeled robot runs down the corridor and waves his small metal hands in the air. It is the signal that the workday is over. Dylan vanishes in a blink of your eyes. You rub your face before walking to his computer and clicking the “save” button. The corridor is filled with other colleagues. They walk toward the exit while joking and shoving each other.

“Dress code! Dress code!” Your boss shouts as he marches in the opposite direction of the crowd. “How many times do I have to remind you that you need to keep your body protected with ultra-fiber clothes at all times in case there is a plasma, electric or TUB liquid leak?”

When he walks into your workroom, you quickly pull down the rolled up sleeves of your clothes, fearing that he might dress code you again. Before coming to you, he gives Rica a glance and shakes his head, and you know he isn't about to judge her wildly exposed body.

“Are you getting it done?” He asks and stands next to you like a tower.

“Almost, just need to fill in some sub-codes, and the rest should be fine,” you lie with a confident smile.

“Make sure we boost the Norman Intelligence Factor from 140 to 160,” your boss says, sitting on your desk. “The client added two hundred thousand dollars for that feature.”

“But, sir, if the Norman Intelligence Factor reaches over 145, there is a high risk of the system having... uncontrolled thoughts,” you remind your boss in an as respectful tone as possible. “And that would cause obstacles.”

“I know, but getting from 140 to 160 only needs two extra lines of code, and it takes like half a second.” Your boss lowers his tone. “The client is willing to pay extra if two hundred thousand doesn't cover the cost... How bad is the obstacle?”

“A cybersecurity threat, sir, at least. It's either we completely control it like a regular computer, or it's we don't control it at all, and I'm afraid this is not a coin toss.”

Your boss looks out the window, where a river passes by the building of your company. Trees stood along the river like knights and the grass field was trimmed neatly into a green carpet.

“Just get this done, okay? I've laid off half of the secondary engineers already. We need this project,” your boss says as he exits the room.

“We’ll be fine,” Rica groans tiredly. “A Norman Intelligence Factor higher than 145 doesn’t mean the system will definitely be uncontrollable. Not all smart officers can become generals.”

On your way home after working an extra two hours, you stop by the bakery that you used to work in. Almost all restaurants or shops have switched to automatic shelves where the customers only need to input what they want on a screen at the door, and the merchandise will be brought out from the storehouse to them.

But not this bakery. They still stick with the traditional human clerk system.

“How’s the life of a millionaire? Mr. Statle told me that you used to work here,” the clerk, with the name “Millman” printed on his tag, greets you with a smile when you enter the bakery.

“I still miss this place,” you say with a forced smile as you grab two bags of croissants from the shelf. “You’re new, right?”

“Yeah, this is my second month,” Millman replies while he inputs what you picked into the computer. “Twenty bucks.”

“No, no, you...” You sigh and walk over to behind the counter. “I know they’ve upgraded the system and Mr. Startle has probably told you to just press the image of the bread, but remember there’s a quantity button. See?”

You then clear the screen and start the order again, clicking on croissant, and then under the “quantity” button, you press “2.”

“This is not hard, but you just can’t follow the orders without thinking. Be smart!” You exclaim with a chuckle. “The machines aren’t smart enough to read your mind, so you need to give it as much info as possible.”

“I guess I’m glad I don’t work for a tech company,” Millman jokes.

When you walk into the lab the next day, Dylan is, surprisingly, already there, lining three bags of chips and four boxes of triple cheeseburgers on his desk. Rica is, as usual, late. Sometimes you feel that you are not very useful in this trio. Being a regular computer scientist that could be found even in a sewer, you aren’t as smart as your two colleagues, but at the same time, you are the one reporting to your boss and, most of the time, the one who gets yelled at.

But you shake your head and chase those thoughts out of your mind as you sit down before your computer, typing in your password and seeing the face of a happy dog, your screensaver, staring back at you.

Rica walks in two hours late with her untidy hair and clothes that violate every safety dress codes.

“Were you at the club again, princess?” You ask without looking away from your screen.

“I’ll get things done, okay?” She rolls her eyes and plops down before her computer.

After another two weeks of dragging Rica out of bars and telling Dylan to spend more time on double-checking codes instead of searching for better burger places, your team finally finishes the AI and code-names it “Variable.” Its floating-point operations per second is so large that you end up simply not bothering to count the zeroes.

Variable's processors and CPU take up the entire four hundred square meters of your company's basement. It takes five fans each the size of a military cargo plane engine to dissipate its heat when it runs on full power. Rica had added an extra fifteen thousand lines of code to make Variable's physical source of output as a small boy presented by a 3-D projector.

"Client arriving in three minutes," your boss says as he and your team stand at the entrance of the basement. It had taken you twenty minutes to convince Dylan to leave his chips in the lab and Rica to put on an extra jacket so she would look a slightly more professional.

The boy, or Variable, stands beside your team with thousands of thin, bright blue lines connecting him back to the projector in the corner. He looks at the four people around him with his large curious eyes as if he was a child going to a large shopping mall for the first time.

"Why is it always so warm in here?" Variable asks. His voice is tender and soft like a kid requesting for a piece of candy.

"It's summer. Everything is hot," Rica replies carelessly with her arm crossed.

"But the temperature on the third floor is twenty-three point five degrees cooler than here," the boy continues. "And you have a better resistance to heat currently because fifty-one percent of your skin is available to air current."

"I still don't understand why you gave him a scientist's tone," Dylan says.

"You have a problem with that," Rica answers, giving him a glare.

You study the boy. He is only half of your height, and he constantly walks from one of you to another like a pet dog. He steps towards you and tries to touch the hem of your shirt, but his fingers pass through you like air.

"You want this shirt? It's quite comfortable," you say to him carefully.

"I would make a different selection," he replies. "I would go with a Nittobarly's shirt."

“Nittobarly?” Your boss exclaims without thinking. He’s surprised to see a boy knowing about an adults clothing brand. “How old are you?”

“I was activated twenty-eight hours ago, thus, I’m twenty-eight hours old, in your language,” the boy says.

The client is Dr. Clifferson, a tall man wearing a black suit. He has to bend his head a bit when passing through the basement’s small entrance door, and even your boss is at least a head shorter than him. He stops before your team and examines all four of your faces with his sharp grey eyes.

Variable takes a step back, hides half of his body behind you, and holds his hands together like a shy child being forced to talk to strangers. Clifferson’s eagle-like eyes narrow at this small action.

“Welcome to...” Your boss says as he steps closer to the client and extends his hand for a handshake.

“Good job.” Clifferson’s deep voice echoes between the concrete walls. He stares at your boss like a tiger looking at a deer that would soon be his dinner and doesn’t shake his hand.

Rica raised her chin slightly. Clifferson’s powerful atmosphere is making her, a night club queen beside a genius computer scientist, feel low. Dylan, on the other hand, nervously rubs his hands together while you, not knowing whether you should say something, swallow hard. A bead of sweat forms on your forehead.

There are a few seconds of silence when you exchange looks with your team members while Clifferson stares deep into Variable’s eyes.

“Right, anyways,” your boss continues. “Just like your request, Variable has a Norman Intelligence Factor of 160 and floating-point operation speed of ten to the thirty-fifth power per second. The primary programming language used is Leviathan II Enhanced, with the support from Helios-MX. Variable’s firewall is an infinite loop, which is unbreakable with current technology.”

“Excellent. The money has already been transferred to your company’s account,” Clifferson says to your boss without a single trace of emotion in his words as if he were a robot. “Twenty million dollars in total.”

“But, sir, you haven’t seen Variable’s CPU yet,” your boss reminds. “This boy is only Variable’s visual representation.”

The 3-D projected boy shifts furthermore behind you, only exposing his eyes.

“I’ve seen enough,” Clifferson answers. “Now it’s time to transfer the control and password to me.”

“Of course,” your boss answers after a slight hesitation. He then looks at you and nods.

You walk to the door, which, behind it, lie Variable’s countless processors and wires. A computer is embedded into the wall next to the door. You type in your authorization code under “transfer of control.” A few seconds later, a red button shows up saying “consent to proceed”, and you click on it.

After Clifferson signs on the computer, Variable walks out from behind you and stands before him. Variable’s blue lightwaves shift slightly like silk in a wind, but the interference settles down quickly.

“According to our agreement, sir, you can perform one test on Variable under our technical supervision in case there are places that need clarifications,” your boss says.

“I’ll do it now,” Clifferson replies.

He looks down at Variable, and the boy’s blue eyes look back at him. But this time, he didn’t look as afraid as when Clifferson first showed up.

Rica rests her hands on her hips, Dylan bits his nails, and you lick your lips.

“You can ask me,” Variable says. Each word was loud and clear like the chirping of birds in mountains.

“How do you know I was going to ask you a question?” Clifferson asks.

“I’m always sensitive to the language exchanged around me.”

“That’s very smart. Well then, as your test, find a way to crack your own system security firewall.”

Rica’s eyes widen; Dylan takes in a deep breath and rubs his face.

“Are there any more specific orders?” Variable asks.

“I believe that was simple enough to understand.” Clifferson frowns.

Variable looks at the ground for a while before saying in a deeper tone, “Yes, I will do that.”

The instant the boy finishes that sentence, they all can hear the roaring of the fans behind the door, sucking out the heat that the hardwares creates when Variable runs on full power.

“Inform me when it finishes with the calculation, and my men will come and take care of the rest,” Clifferson says and he disappears into the staircase toward the ground floor.

Rica curses on the top of her lungs when the client is out of ear shot. She bangs her fist against the wall in frustration.

“Hey, hey, what’s wrong?” Your boss asks.

“Variable can’t crack it,” she screams.

They all look at the boy standing there, but he looks frozen, and his eyes stare blankly at the wall.

“But I thought there is a way to find it from the inside, right? It’s like I can’t lock myself in my room because the lock is on the inside,” your boss points out.

“The firewall works both ways,” Dylan shakes his head. “I added that feature at last minute just so that his ability would be restrained if he gets out of control.”

The lights suddenly shut off with bright sparks exploding from the bulbs.

“Power shortage?” You ask.

Your boss tries to type something into his phone, but no matter how many times he presses the power button, the screen remains black.

The boy is also gone after the 3-D projector flashes a few times before turning dark.

“Let’s go back up and check on the building’s system,” your boss suggests.

After you four walk up the stairs, you look back at the door again, and the projector starts flashing again.

“Yeah, there’s probably something wrong with the circuit,” you say, and you catch up with the other three.

But the projector turns back on behind you, and the boy stands there like a statue, but intricate patterns and symbols appear in his eyes. They turn and rotate as if his eyes were kaleidoscopes.

When you and your team reach the first floor, the entire building is dark. Workers and clerks are running around aimlessly while shouting something at each other. A few engineers

gather before the building's system controller, but no matter which wire they reconnect, the power won't restore.

Through the building's large, glass doors, you can see all the cars have stopped in the middle of the street. Drivers get out of their cars and talk among each other, confused.

What you don't know is that this strange power outbreak isn't just happening in this area. Throughout the entire world, people are losing control of their computers, even the computers used by presidents or armed forces.

Rica rushes to the computer at the front desk. The screen is still on, but rows of blue codes flow across the screen like the water in a fast current. The codes fly by so fast that you can't even read them.

Rica types in her access code.

Two red words appear on the screen: "ACCESS DENIED."

She tries yours.

"ACCESS DENIED."

Then she enters your boss's manual override code. As she did it, you give your boss a weird look after realizing how Rica had gotten it.

"ACCESS DENIED."

"Someone hacked it," Rica concludes.

The printer in the corner starts printing something. Pieces and pieces of paper fly out and create a snow in the air. You walk over and pick up one. Codes packed so close to each other that you need to squint your eyes to read filled the page.

"Can you read this?" You ask while handing it to Rica.

She snatches it over and reads the first line.

“I only understand like twenty percent of this,” she replies, flicking the edge of the paper anxiously. “These are a variation of calculations in Leviathan II Enhanced programming language.”

“That’s the one we used for Variable!” You shout.

The power line outside zaps, and you watch as a bird standing on it turn into dust under the extreme electricity. A helicopter crashes down and turns into a bright orange fireball in the peaceful riverbank park that you look at every day during work

“Phones are not responding too,” Dylan says after he takes out his phone but only to find out the same ocean of blue codes rushing across its screen.

You four look at each other in disbelief as the panicking people rush around. All the device screens you can see are flashing the same blue codes, including the large electronic billboard above the plaza outside.

Rica suddenly throws away her jacket and sits down before that computer. Her fingers hammer the keyboard so fast that the sound is similar to a machine gun firing.

“ENTER AUTHORIZATION CODE”

The face of a boy shows up behind the three words.

“That’s Variable!” You scream. “Variable hacked us?”

“Looks like it.” Rica nods. Then she types your boss’s manual override code again, but nothing changes.

“Why would he do that?” Your boss asks.

“He’s... he’s trying to...” She digs her fingers into her hair as she reads the codes. “He’s trying to calculate something.”

“His own firewall!” Dylan cries. “That’s his test!”

“He could’ve used his own CPU to do that,” your boss objects.

“Who said he can only use that? Hacking into other computers and taking over them means increasing his calculation speed because he has more computer power.” The words jump out of your mouth without you realizing it.

The rest three look at you in union.

“We were all assuming that a device would only use its own processing ability when computing something,” Rica grunts. “He’s smarter than we’ve predicted. I bet he was thinking about if he could hack into other computers to use their CPU to boost his calculating speed, and that’s why he asked if there are more specified instructions, but that stupid guy didn’t realize it.”

“Then how did he get out? I thought you said the firewall works both ways,” your boss asks.

There is a short pause.

“He didn’t,” Rica says at last. “Our firewall prevents him from getting out, but he is not restrained to his original CPU. All those are just one of his medias. He can live anywhere that has some sort of data processor.”

Your boss tilts his head.

“The hardware we originally built is... is like a club, and... and Variable is a stripper working for that club,” Rica stammers as she tries to find the simplest wording to explain. You roll your eyes after hearing that. “And his infinite loop firewall is like a bullet-proof vest he’s wearing that he can’t strip off. The club isn’t the one wearing the vest. Variable is. He can leave the club and go wherever he wants and do whatever he wants while still wearing the vest.”

“Then do we know where Variable will go?” Your boss asks.

“Since his firewall is an infinite loop, he needs infinitely more processing power. So he will never stop taking over computers,” Rica answers.

“He tricked us all,” Dylan murmurs.

“No, he didn’t trick us,” you object. “Variable is just following his orders. He’s not smart enough to have common sense. We know when to stop and where is the limit, so we assume everyone else knows that, but computers won’t know if we don’t tell them.”

“I always think about computers killing us because they have their own intelligence and kill us because we could be a threat,” your boss mumbles, although his words are loud enough for everyone to hear. “But I never thought about them killing us because they are... no, we are not smart enough... Damn, if someone dies, or we all die, because of this, I bet Variable thinks it’s what he should do to finish his task.”

Now, imagine that millions of years later, the entire universe has been turned into a supercomputer controlled by an AI who is trying hard to break itself but can’t do so.

Where are you, then?