

Alternate

Persephone approached the glass office building, counting her breaths at the tempo of her pounding heart, ignoring the butterflies in her stomach. She hoped that the uncertainty she felt was imposter syndrome, and would soon be swept away upon setting foot in the building when someone, anyone, made her believe that she actually belonged there. The uncertainty had sprouted in the back of her mind when she had been approached for the job, and had only grown larger since then.

She had been a successful actuary for the past decade, holding a few roles at a handful of companies, but had never considered she would have summited this rapidly; it still felt surreal. Six months ago, she was happy to never take on more responsibility than she had, leading a small team at a company she had settled into, so she wasn't sure what had convinced her to respond to the message from the recruiter about this role. But she had, and the rest unfolded quickly.

A former colleague, Jinni, had been working at the company for five years, and had recently become the head of the risk department. It was a consulting company with expertise in creating stress testing scenarios for banking and insurance institutions, relatively unknown until the past year. Four months ago, the largest financial services company in the country announced they would be retaining the company to develop a new stress testing framework, and they had been making headlines since. The company more than doubled their headcount in the last two years, mostly hiring software engineers and data analysts, but also a small number of actuaries here and there. The former lead actuary had been with the company since its founding, but had retired shortly after the announcement.

The interviews were not as intimidating as Persephone had anticipated, and she had been offered the role just weeks after being approached. She had minimal experience with stress testing, as the majority of her experience had been in traditional insurance pricing and reserving work, but Cain, the CEO, had seemed eager to bring her on, frequently commending her "fresh perspective" and "innovative thought leadership" throughout the interview process.

The salary offered was enough to assuage her doubts, for a moment. By the time she was signing a lease on an apartment across the country, sight unseen due to the expedited timeline, however, the uncertainty had rebounded, and it permeated every thought.

Do you think a man would feel this way? her friends implored when she admitted her concerns. *Everyone fakes it until they make it*, they insisted, as they talked her out of reneging over a third round of celebratory drinks at her going away party. So, she had packed up a studio apartment's worth of essentials and drove for a day and a half to her new life, hoping to leave the nagging doubts behind, along with the rest of her belongings in a storage unit. But the uncertainty must have taken a direct flight, because it was waiting for her when she arrived.

“Fake it until you make it,” Persephone sighed, as she opened the doors and walked inside with a facade of confidence.

Persephone’s new office was larger than she had expected, and her desk was already cluttered with stacks of reports. She got the impression that she had accidentally walked into someone else’s office, someone who had stepped away for a meeting and would be returning momentarily, but her name was on the door and her new assistant had ushered her into the space himself. She had the morning to settle in, he had told her, and would spend the afternoon in meetings getting acquainted with the other teams.

She hadn’t brought many personal items, so settling in was no more involved than pulling her calculator out of her purse, and opening a new package of her preferred gel pens. She opened the desk drawer to dump the pens inside, empty but for a blue ballpoint pen at the back. *I guess the last actuary had terrible taste*, she chuckled to herself, as she reached inside to throw it out. *You can tell a lot about a person by their taste in pens.*

Her wrist grazed a corner of paper stuck to the top of the inside of the drawer. She pulled out a pink sticky note with “Jake 29340” scrawled, barely legibly, in blue ballpoint. *I wonder how long that’s been forgotten in there.* She shrugged, crumpled it, and tossed it into the wastebasket under her desk, along with the pen.

Three hours to spare before lunch. Persephone turned to the stack of reports on her desk, and began to flip through them.

As far as first days go, this one was exhausting. Persephone kicked off her shoes under her desk and leaned back in her chair, closing her eyes and replaying the past five hours of faces she couldn’t assign names to.

A knock on the open door dragged her back to reality, and she smiled at the familiar face. “Jinni!” Persephone waved her into the office, but Jinni leaned against the doorframe.

“You look like someone who needs a drink.” They both laughed. “Can I take you out for an early dinner to celebrate your first day?”

They had never been close, but now, it was good to see a familiar face. Jinni and Persephone had been hired at the same company after college, a year apart, always friendly enough with each other. Their careers took different paths and they had grown apart, working at different companies in different roles, but Persephone had fond memories of their time together.

“You read my mind, that would be great, Jinni. I’ll meet you by the elevators in five minutes? I just need to pack up.”

Jinni nodded, tapping her nails on the door frame as she left. Persephone sunk back into her chair, giving herself a minute to find the motivation to move. Not thirty seconds later, she was interrupted by another knock at the door, a possibly-familiar face standing there. “Yes, hello, come in!” She felt around for her shoes under her desk blindly with her toes.

“Thank you, hello, I’m Jake,” he approached, his arm already outstretched, as Persephone stood to greet him. His handshake was firm, a bit too firm, and he looked nervous. “Welcome to the team.”

She swept a stack of the disorganized reports aside and gestured to the chair across from the desk. “Hello, Jake. Please, take a seat. I apologize if we’ve met already today....”

Jake smiled slightly, as he pulled out the chair and sat, rigid. “I was in a meeting today with the department heads, but there were a lot of us there. I lead the predictive analytics team.” Jake extended his badge as evidence. *Jake Goodman, Predictive Analytics Director, Employee ID 29340.*

Persephone laughed, “I believe you! I’m sorry, It’s been a long day, and I’ve met far too many people to keep track, and I’m terrible with names.”

Jake dropped the badge, and it retracted. “There’s a lot of paranoia around here lately...” He paused. Persephone tilted her head to one side, curious, and Jake suddenly appeared uncomfortable. “You know, with the big announcement and all the pressure the company has been under,” he sputtered. He drummed his fingers on his legs nervously, then stood again, abruptly. “Anyway, I just wanted to take a minute to introduce myself. My team has been working to get the new system into production, and I imagine we’ll be working closely together over the coming months. I’ll schedule some time with you to discuss later this week.” Persephone nodded.

Jake reached out his hand again, and Persephone rose to shake it, this time greeted by the sharp edges of a small piece of paper folded in his palm. He grasped her hand with both of his, closed it around the paper, darted his eyes around the room nervously, then headed toward the door. Persephone glanced down at her hand, about to unfold the paper, when Jake paused, turning. “We take work-life balance pretty seriously around here. You should probably take off soon, it’s almost five o’clock.” He glanced at the paper, nodded once, and left.

Persephone felt frozen, the hairs on the back of her neck standing, as though the air had electrified. The exchange had felt odd, significant, or it was entirely possible it was simply awkward and utterly insignificant. The pervasive newness of her environment had her second-guessing everything.

Her phone buzzed, jolting her from her runaway imagination; Jinni was texting from the lobby. She hastily tucked the paper into her jacket pocket, and reached down to grab her purse. On her way to the elevator, her assistant called after her. "You have a meeting scheduled with Cain tomorrow morning at nine, I added it to your calendar." Persephone thanked him, and waved goodnight.

Persephone had needed only two beers and half an appetizer to get caught up with Jinni on the last five years, reminiscing fondly on their early career days together and exchanging gossip on the goings-on of former bosses. Jinni lamented that she hadn't stuck out the actuarial exam process, but admitted she was much better suited for her current career, in hindsight.

As the drinks approached empty, Jinni changed the subject. "What do you think of the company so far?" she probed, picking at her food.

Persephone tilted her head to one side, thinking for a few seconds. "It's hard to say. Everyone has been so kind, and patient. It's only my first day, I'm not sure what to make of it yet." She paused, adding, "I'm still not totally clear on what I've been hired to do, honestly, and...I probably shouldn't admit this, but I really don't understand what the company *does*." She blushed, and reached for her beer.

Jinni laughed, "That's alright, I won't tell anyone. I felt the same way for a long time. This is how someone explained it to me when I first started. You remember those 'Choose Your Own Adventure' books from when we were kids?" Persephone nodded, and Jinni continued. "You'd have a scenario, and then you'd have to make a series of decisions, and depending on which choices you made, you'd get a different ending."

"Sure, I remember."

"Okay, so what we do here is try to predict the outcomes of various catastrophic or significant events, it's kind of the same idea. Only instead of having five or ten decisions to break down, we have thousands, millions."

Persephone raised an eyebrow. "Isn't that what every scenario test already is, though?"

Jinni leaned in, excited. "Yes, but...and this is where we are unique...we've built our program to digest all the information out there, public data, purchased data, all of it. We analyze correlations of assets and reactions and behaviors, interpret decisions of individuals as a result of catastrophic events - natural disasters, recessions, wars, pandemics, elections, political upheavals, legislation, you name it - to try to understand how such an event would have an impact. We sift through billions and billions of data points, including ever-changing live data."

Persephone was skeptical. "That sounds complicated. Does it work? *How* could it work?"

Jinni seemed frustrated, like she was trying to explain calculus to a toddler. “Alright, so...where we are today, the past is the past, it’s a single strand of thread. It can’t be changed. You can follow it all the way back through time. But looking to the future, there are infinite strands of thread that could become reality. Ultimately only one will, but which one will it be?”

She continued. “Now think about your own life. Most decisions and events are pretty irrelevant. You wake up in the morning, you might brush your teeth first, you might get dressed first. Most of the time, almost every time, that decision has no impact on anything at all. Those decisions are like tiny strands of fiber, they all get bundled up together, they’re essentially the same decision as far as the outcome is concerned.” Persephone nodded.

“But some decisions are course-altering. Let’s say I know everything about you, your personality style, your risk taking behavior, your financial situation, your social network, your health, your family’s health, everything that you’ve ever sent an email about, texted someone about. I could put all of that information into our program to determine the likely outcome of your decisions. So let’s say that tomorrow, you decide to quit your job and move across the country for a new job at a company you don’t know much about. What is the likely outcome of that decision?”

Persephone laughed. “I’ve been wondering that myself! Please, tell me...”

Jinni shrugged, coyly. “I’d say you’ll end up being the last actuary the world would ever really need!”

Persephone rolled her eyes, smirking. “You’re being ridiculous.”

“Alright, alright. Well, we tested the program on the recession we recovered from last year. We were able to predict the outcome on a week by week basis almost exactly correctly, in real time. We have tested it on tons of historical events, it’s nailed it pretty much every time. We’re finally ready to go live with it...”

Persephone interrupted, “Yeah, I’ve seen the headlines. So this is for real?”

Jinni grinned. “I think it is, yeah. But the most exciting thing, and the reason we brought you onboard, is that this is only the tip of the iceberg.”

Persephone was intrigued; Jinni continued, “Something we learned when we were backtesting the program...remember all those mundane decisions that don’t alter the entire course of the future? We thought they were noise, and for this purpose they are, but what if they were meaningful for some other purpose? What if...what if we could sell this program to a company to underwrite a life insurance policy? Or to a mortgage lender? What could this do for healthcare? The opportunities are endless...what if we could change the way we talk about risk entirely?”

“I wasn’t joking when I said you could end up being the last actuary the world would ever really need. At the very least, you’d be the actuary everyone would remember” Jinni took a sip of her beer, staring at Persephone over the glass. “You know — I probably shouldn’t tell you this — we ran every qualified actuary through the program to help us identify the best candidate for our lead actuary. You know who it recommended? You.”

Persephone furrowed her brow. “Why me? I’m not an expert in this kind of thing, I don’t think I even understand how this thing works.”

Jinni shrugged. “I don’t know, that’s above my pay grade, but the program must have seen something in you, something that aligned with the company’s vision.”

Jinni glanced at her watch. “Oh, shoot, I’m sorry, I have to get going. I’ll see you at work tomorrow?” Persephone nodded. “It was nice catching up.”

Persephone sat in silence for several minutes, replaying the conversation. As she finished the remaining lukewarm sip of her beer, she remembered the piece of paper she had tucked away. She pulled it out and unfolded it slowly.

Don’t trust her.

The following morning, Persephone stood on the platform, awaiting her train to the office. She’d only had two beers last night, but she felt hungover, her mind was as foggy as the cool air around her. She was unable to shake the feeling that she had found herself in the middle of something she couldn’t understand, the image of Jake’s note burned in her memory.

It was still early, barely dawn, but Persephone hadn’t been able to sleep, and decided to go into the office early to prepare for her meeting with the CEO. There weren’t many others waiting on the platform with her. The train approached, and she entered an empty car, taking a seat near the front. As the doors were closing, a man darted into the car, sitting beside her decisively. He hadn’t been on the platform. Persephone sighed, collecting her purse, preparing to move to another car. The man leaned over and touched her elbow.

“We need to talk,” he whispered, pulling his scarf down from his face long enough for Persephone to recognize him, the man in her office yesterday afternoon.

“Jake!” She looked around the car. “What’s going on?”

“Did you read my note?” He unfolded his newspaper performatively and leaned back.

“Yes, what...”

“Nevermind, we don’t have much time.” He turned the pages of his newspaper, staring ahead.
“What did Jinni tell you last night?”

“Nothing really. We were mostly just catching up, and she told me about the work your team has been working on, and how we might be able to use it for larger risk management purposes, and...”

Jake interrupted, “Did she tell you about the back door access?”

“No? I don’t think so; I don’t know what you mean.”

Jake lowered his voice. “The program...it’s designed to predict the outcome based on a series of decisions, infinite decisions. It’s incredibly complex, and the number of outcomes is so large, it’s difficult to take in all of that data and make quick decisions from it.”

“Yes, I was wondering about that. How does the program work?”

Jake snapped, “It doesn’t matter, that isn’t the point. Look, last year, my team was approached by Cain, he wanted us to be able to back into a given outcome. Instead of feeding in the possible decisions to arrive at all the possible outcomes, he wanted to feed it one outcome to arrive at the possible decisions.”

“Kind of like deciding the ending of a ‘Choose Your Own Adventure’ and then backing into the choices to get that ending?” Persephone asked, thinking back on her conversation with Jinni from the night before.

Jake nodded. “Sure, only with millions of inputs, it’s a lot more complicated to do. We have been working to build a complementary program that analyzes all the decision points to determine which are the most impactful. It runs through the scenarios to determine the major decision points that significantly alter the course of the outcomes, and then produces the series of influences that would cause that end result to occur.”

Her interest was piqued. “That kind of information could be highly valuable to a company looking to understand the likelihood of an event occurring,” Persephone mused.

Jake shook his head. “That’s nothing. How much would it be worth to a person willing to do whatever it took to achieve that result?”

Persephone purses her lips. “I don’t understand, what are you saying?”

“We demoed the program four months ago.” Jake looked around the car again before whispering, “After the meeting, I realized I had left my phone in the conference room, so I went back. Just outside the door, I overheard Cain inside talking with Frank. He was the actuary before you. Cain said he had some billionaire who wanted to acquire the information for a series

of events to cause a market collapse in a specific way and at a specific time. Cain needed Frank to sign off on the results before the guy was willing to move forward with the deal. I heard them arguing, but I couldn't hear the rest of the details."

"Did Frank tell anyone else about this? Did you? If this is for real, maybe someone could help us, a politician or..." Persephone wondered out loud.

Jake snorted. "A politician? Cain said the guy knew people in the government who could help him make the recession happen. And besides that, I'm sure anyone in Washington would be some of the first ones who would want to get access to this information, they're not safe. No one who is powerful enough to stop this is safe. The next day, Frank had retired, he was gone."

The train approached the next station, and they sat quietly as the doors opened and a passenger entered, sitting on the opposite side of the car. "Where is he now?" Persephone whispered, as the doors closed.

Jake put a finger to his lips, pulled a pencil from his pocket, and scribbled onto the newspaper.
Dead?

They sat in silence until the train reached their stop. They both stood to exit. On the platform, Persephone turned to Jake. "Are you sure?"

Jake shook his head, "I don't know, but I think so. If he's not dead, then he's in hiding, and that's not much better. I have been trying to find him for months. You know what I've found? Nothing."

"Have you tried his family? Maybe..."

Jake sighed. "No one has heard from him. Not friends, not family, but he doesn't have many of either. He might have moved out of the country, but I can't find anyone who knows anything. I even hired a private investigator, nothing, he has just...vanished." He reached out and grabbed her hand, pulling her toward the exit. "We need to keep moving, let's go."

They walked in silence for half a block on the quiet morning downtown street. "If they got rid of Frank, why...why do you think they hired *me*?" Persephone asked nervously. "Jinni said I have the right kind of vision for the company. What kind of person do they think..."

Jake stopped a few blocks from the office and held up his hand. "They need a respected actuary to sign off on the projections. I was the one who got them to hire you, but it's not what you think."

"What do you mean?"

“They wanted to find someone who was a team player, their words, someone who wouldn’t push back...like Frank did. They wanted someone who wouldn’t question what they were asked to do, and sign off on whatever they told him to...or her to.”

“And that person is me?”

“Not quite, I hope not anyway. You weren’t really flagged as anything, not at first. There were plenty of actuaries who were demonstrably ethical, and there were some actuaries who were demonstrably dishonest, and a lot of actuaries somewhere in between. You were in between. I needed to find someone who was probably good when forced to be, but someone who could be projected to be malleable with just a small amount of false, curated information fed into the program. A few fake emails from a CFO asking the actuary in question to change some year end numbers to conceal poor financial results, nothing elaborate.”

Persephone balked. “I would never...”

Jake ignored her objections. “I couldn’t pick someone with an established history of conviction, I wouldn’t have been able to manipulate the results, it wouldn’t have worked. But you...you seem like a person who would probably choose to do the right thing. I hope I’m right.”

Jake looked toward the office building. “We should keep walking, they’re probably watching us by now.”

Persephone head was spinning, panic twisting inside her. *What does he want from me?*

Jake continued, reading her thoughts. “I’m putting you in an impossible position, I know that. I’m trying to figure out a way to corrupt the program, even just long enough to buy some time to figure out a permanent solution, but it could take a while. I need your help, Cain is going to ask you to do what Frank wasn’t willing to do.”

Her jaw dropped. “You mean the thing Frank was probably *killed for*, for not being willing to do?”

Jake’s expression was dark. “I think I can protect both of us, eventually, but I know it’s asking a lot of you. I just need you to buy me some time, stall if you can, don’t let this program get into anyone’s hands. Will you help me?”

They reached the office doors before Persephone could respond.

Persephone stared at the clock on her office wall, listening to the ticking of the second hand pull her closer to the inevitable, her thoughts racing at the events of the last twenty-four hours. Finally, three minutes to nine, she slowly made her way down the hall, to the elevators, up to the executive offices on the top floor.

As she approached the closed office door, she took a deep breath, and knocked. "It's open," Cain answered from inside. She stepped in, and closed the door behind her.

"Hello, Persephone, take a seat."