

Modern Engineering's Art of Automation: Creating Systems That Think Without Ignoring Feeling

Nigel Dsouza

Because we were lazy, we used to automate.

We *have* to automate now.

Automation is now the nervous system of modern engineering—not a luxury in a world of hyperscale systems, incident fatigue, and the constant pressure of uptime.

The problem is that most automation isn't attractive. It is fragile. It lacks soul. Although no one knows how, it accomplishes the task. Or the reason. Or what to do in the event that it breaks.

This raises the question: **What if automation could be art?**

Beyond Cron Jobs and Scripts

Writing bash scripts or configuring webhooks is not what true automation is all about. It has to do with designing intent.

It has to do with integrating wisdom into pipelines—about planning for failure and preparing for recovery—about designing processes that are so fluid they seem alive.

I've developed automation frameworks at Fidelity that cover everything from disaster recovery to CI/CD, and I've discovered this:

Time is saved by bad automation. Teams are saved by effective automation.

When Systems Harmonize

Consider your infrastructure as an orchestra, with Jenkins serving as the conductor. Terraform is your declarative, accurate string section.

Lambda functions? Percussion—quick, fleeting, and rhythmic.
Monitors and alerts? That’s the brass—noisy, necessary, and occasionally frightening.
You want more than just them to play. You want them to play well *together*.
That is the art.

The Price of Systems Without Friction

Perfect automation runs the risk of eliminating too much friction.

The logs are not read by anyone. There are no inquiries. Until they don’t, nobody can recall how things operate.

For this reason, the best automation doesn’t simply eliminate people.
It helps them. It imparts knowledge.
It creates trails. It takes context into account.

Creating for Pleasure Rather Than Just Delivery

Using your pipeline can be enjoyable.
You can include ASCII art with your self-healing scripts.
Your alerts can be tuned like instruments instead of sounding like alarms.
Because automation is experience, not just execution.

We must make the system more than just functional if we want engineers to have faith in it, love using it, and build upon it.

We must make it relatable.

In Summary

Automate like an artist.

The next generation of engineering leaders will be those who can create self-sufficient systems without losing their soul—not those who can write the fastest script.

So, the next time you write a pipeline, ask yourself:

- Does this teach a mindset or simply automate a task?
- Will the next individual comprehend it—or be afraid of it?

- Did I build trust—or just save time?

Because automation is more than just a tool.

It's a *medium*.

And some of us were destined to create art.

About the Author

Nigel Dsouza is a Technical Lead and Principal Software Engineer at Fidelity Investments, where he creates automated cloud systems that are just as robust as people. According to him, each pipeline is a performance and each Jenkinsfile is a brushstroke.