

21 September 2025



The Observability of Everything

Instrumenting Science with DevOps Tools

Presented By: Aftab S



Hi there!



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Grafana Champion

Tech Blogger

Standup Comedy

Community Builder

Public Speaker

Foodie

Movies

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FINAL.doc!



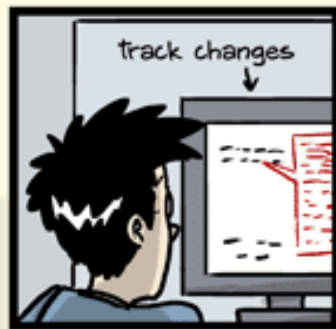
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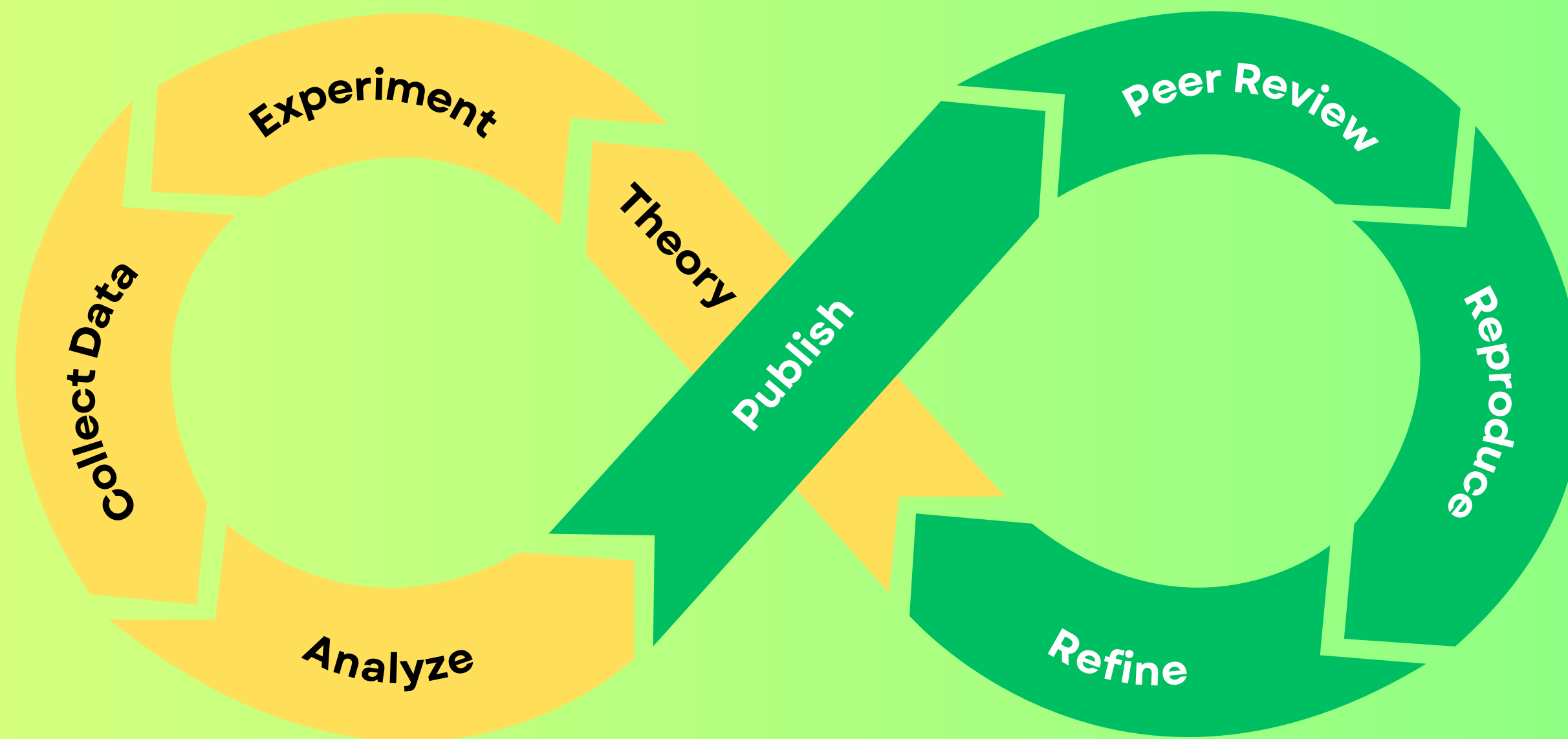
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Modern science in many labs today.

The Reproducibility Crisis

Science

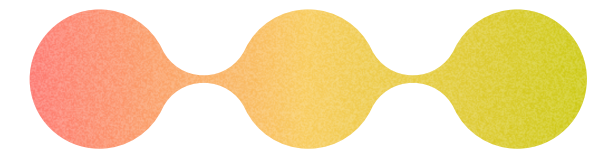


DevOps



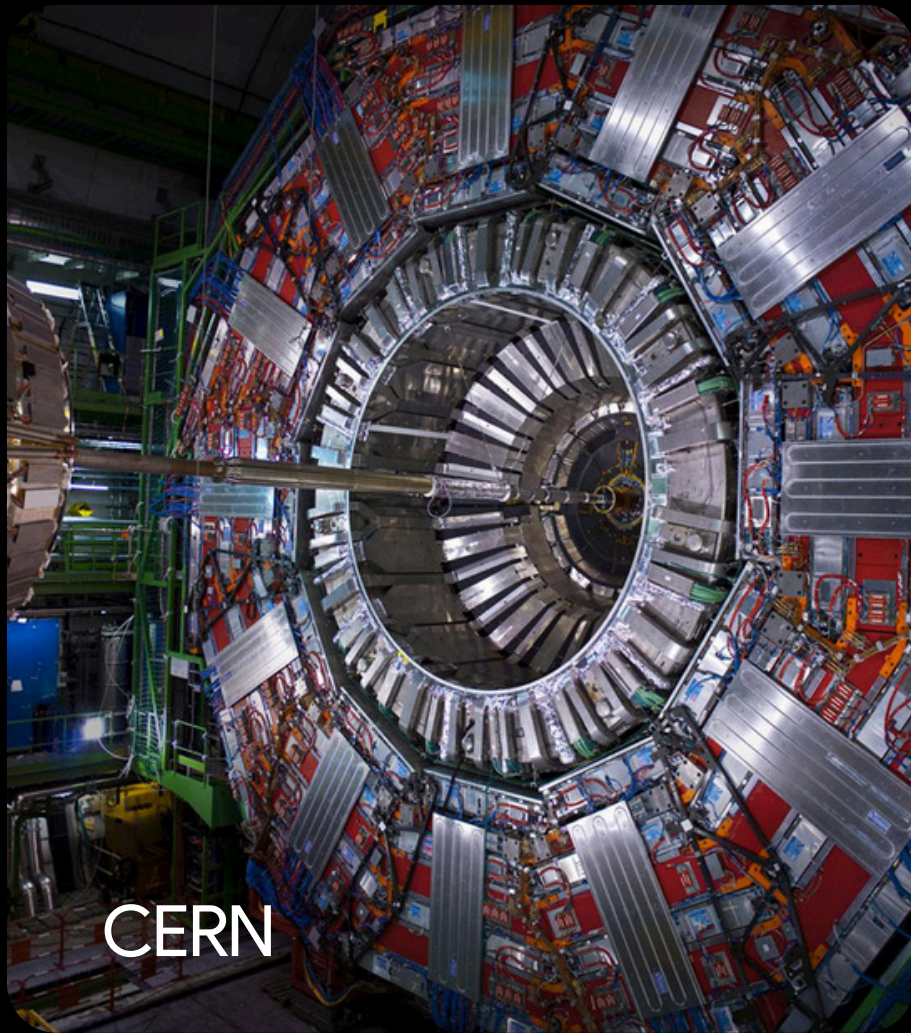
The core tenets of DevOps align with the imperatives of modern computational science.

“ResearchOps”

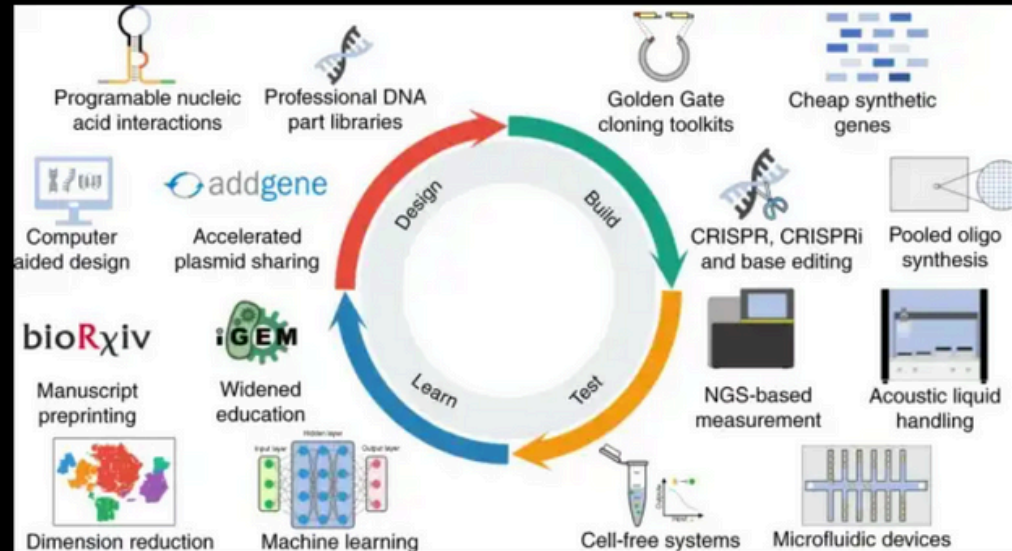


ResearchOps in practice

Git	Versioning manuscripts and datasets, not just code.
Docker	Reproducibility of environments.
CI/CD	Automated analysis pipelines.
Kubernetes	Scaling scientific workloads.
Prometheus + Grafana	They are used to observe anything.



DECEMBER 27, 2021



BioDevOps: DevOps for Synthetic Biology

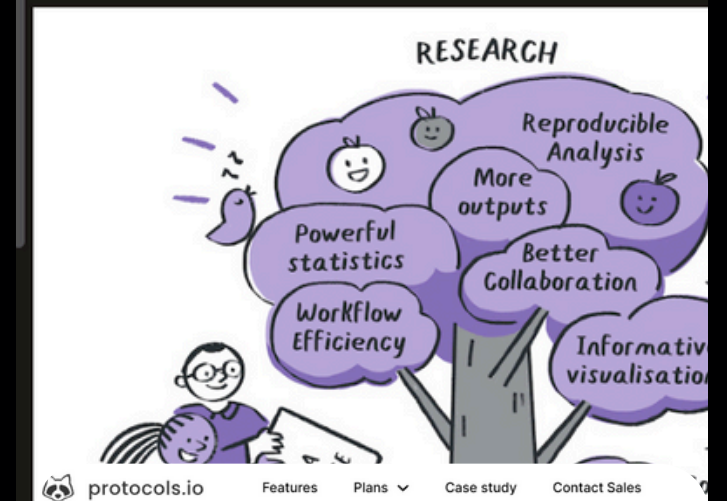
As part of defining my professional goals for 2022 onwards, I made this blog entry as a breakout to explain what SynBio DevOps was.

SynBio DevOps is awkwardly long. After brainstorming, I'm going with BioDevOps. I think its broad enough to also include CloudBioServices (working title), which is like AWS for Self Service Cloud Biology Labs.

Evidence

Git for research projects

The Turing Way Community



Bring **structure** to your research

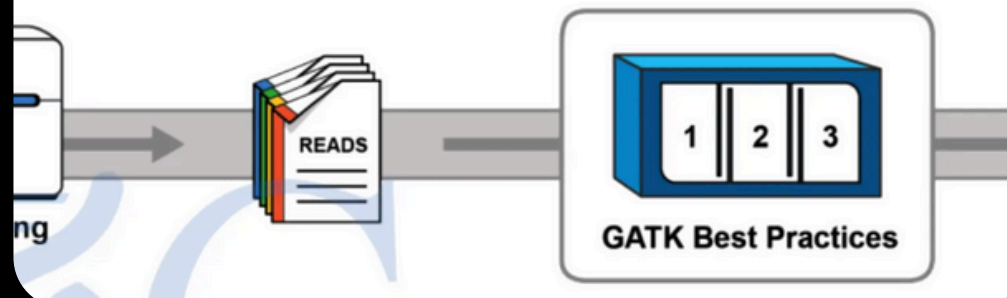
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Using Docker in genomics workflows

Pubudu samarakoon Follow 6 min read · Oct 29, 2019

38 1



Terraform for Data Science: The Infrastructure Ally You Didn't Know You Needed



Arnav Munshi

Senior Consultant @EY | 5+ Years Cloud & Data Engineering | Expertise in Azure, AWS, Databricks, AI Agents & GenAI | Skilled in CI/CD, IaC & DevOps | Ex-Wipro | MS-Data Science | MBA – International Business | Symbiosis

Published Aug 11, 2025

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Most data scientists focus on algorithms, models, and analytics. But here's a truth we often overlook: **your model is only as good as the infrastructure it runs on.**

How to monitor your plants with Grafana Cloud



STEM in the garden: how to monitor plants with IoT sensors and Grafana Cloud

Marie Cruz · 2025-04-18 · 10 min

f t in

“If DevOps helped us debug
Kubernetes... maybe it can help
us debug the universe.”

Same tools. New frontier.

Challenges

Cultural
Technical



Next time you think about
DevOps, think **beyond** servers
— think about science.

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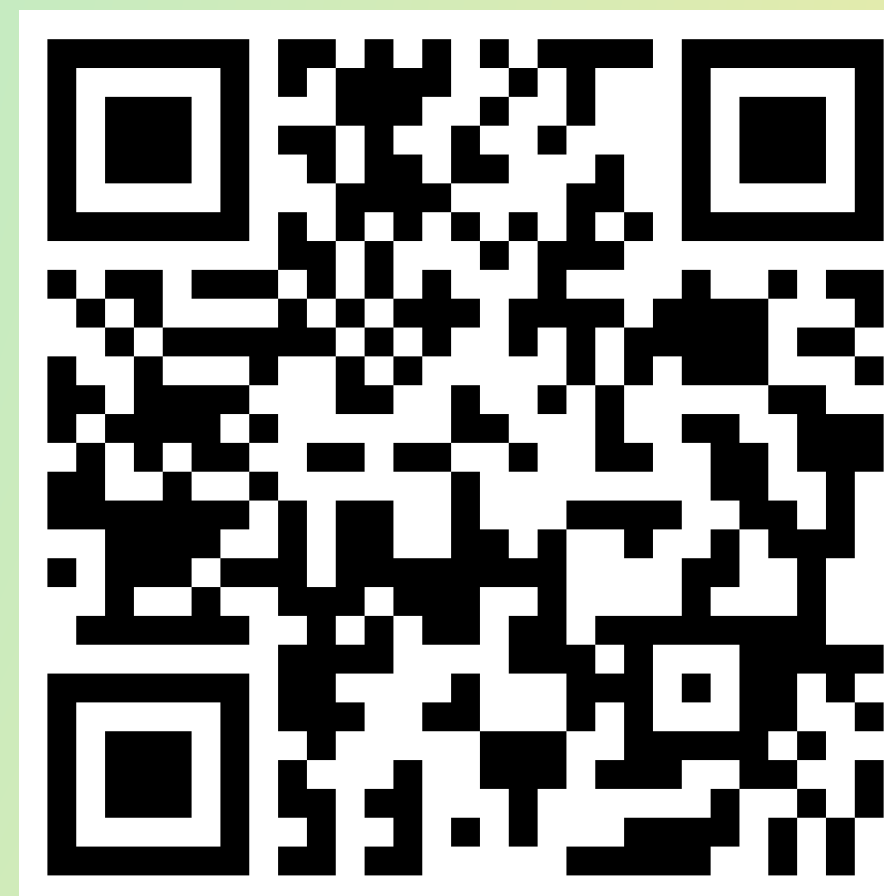
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[Git for scientists - Neurath's boat](#)

[DevOps: A Cultural Change, Not a Technical Revolution - ZeroBlockers](#)

[Introduction to the Theory of Cellular Automata and One-Dimensional Traffic Simulation](#)

Thank you for listening.



Let's connect!