

Building a LaTeX-Based Blog System

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Why Write Blogs in \LaTeX ?

While many opt for Markdown or Notion to write, I prefer \LaTeX . It's not because it's more convenient - it often is not - but because it reflects the way I think: structurally, typographically and with native support for mathematical notation. Since I already write papers in \LaTeX , it feels natural to let my blog adopt the same style.

System Design

I wanted a setup that satisfied the following:

- Each blog entry is a standalone `.tex` file, tracked by Git.
- Any push to GitHub triggers automatic PDF compilation via GitHub Actions.
- A centralized index (`blog.yaml`) keeps metadata like title, date, and publication status.
- A lightweight static site: just HTML and PDFs, no backend or database.

The pipeline is simple and efficient:

1. Compose each post in Overleaf or locally.
2. Push to GitHub; only the modified `.tex` files are compiled.
3. A Python script updates `blog.yaml`, generates `index.html` and `feed.xml` (RSS), and builds individual viewer pages.
4. The result is deployed to my personal homepage via GitHub Pages.

Outcome

The final result is satisfying: a blog that feels like a curated series of technical notes. Each post is timestamped, precisely formatted, and easy to maintain.

The system is minimal yet future-proof. I can add tags and filters later, and use an LLM to auto-generate keywords and a short abstract for each post to enrich both the RSS feed and the `index.html`. For now, its simplicity is the point—clean, efficient, and under full control.