

# Create a Free Static Site with Github and R

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# Overview/Scope

- **What is a static site, and why are they useful for academics?**
- **Building a static site:**
  1. Hugo generator
  2. Rstudio with Blogdown
- **Deploying a static site:**
  - Deployment using Github
  - [Bonus] R Markdown documents
  - Netlify
- **Domains**
- **Content**

# Caveats upfront

- *This isn't an interactive/tutorial workshop...*
- Some coding knowledge required
- This workshop will not run through all details of Github – so some components may make *less* sense without those insights.
- Static site generation isn't for everyone!

# Part 1: What is a static site?

# Static Sites in Simple Terms

Lots of different static site generator tools, all of them share:

- You write your content in a plain text Markdown file
- You have a directory/folder structure with things like theme
- The generator will turn your content + theme into HTML files
- You upload the HTML files somewhere on the internet.

# Site Generators

A List of Static Site Generators for Jamstack Sites

Filter 347 Generators

Sort

All Languages

All Templates

All Licenses


GitHub Stars

## Next.js

★ 92406  
🔗 19662  
📄 1138

A framework for statically-exported React apps (supports server side rendering)

**Language:** JavaScript  
**Templates:** React  
**License:** MIT

 Deploy to Netlify

## Hugo

★ 61775  
🔗 6427  
📄 581

A Fast and Flexible Static Site Generator.

**Language:** Go  
**Templates:** Go  
**License:** Apache-2.0


 Deploy to Netlify

## Gatsby

★ 53518  
🔗 10121  
📄 87

Build blazing fast, modern apps and websites with React

**Language:** JavaScript  
**Templates:** React  
**License:** MIT


 Deploy to Netlify

## Jekyll

★ 45262  
🔗 9235  
📄 92

A simple, blog-aware, static site generator.

**Language:** Ruby  
**Templates:** Liquid  
**License:** MIT

 Deploy to Netlify

## Nuxt

★ 41257  
🔗 3160  
📄 456

A minimalistic framework for serverless Vue.js applications.

**Language:** JavaScript  
**Templates:** Vue  
**License:** MIT


 Deploy to Netlify

## Docusaurus

★ 37843  
🔗 5387  
📄 188

Build optimized websites quickly, focus on your content

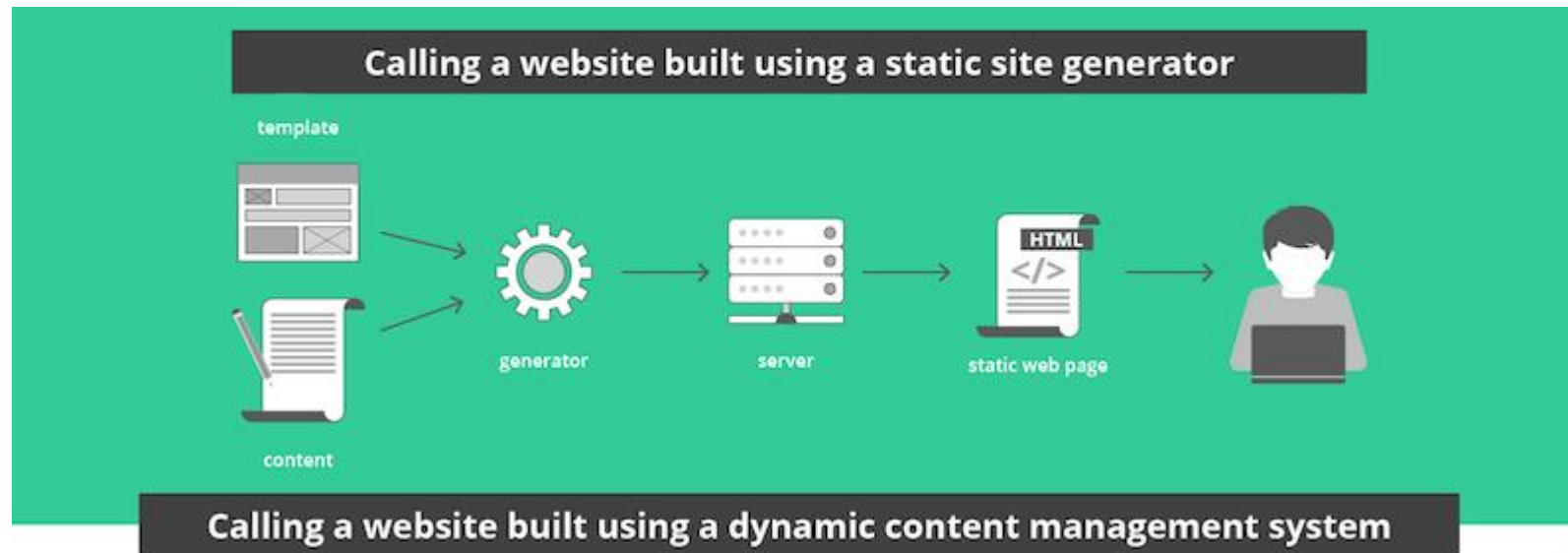
**Language:** JavaScript  
**Templates:** React, Markdown  
**License:** MIT

 Deploy to Netlify

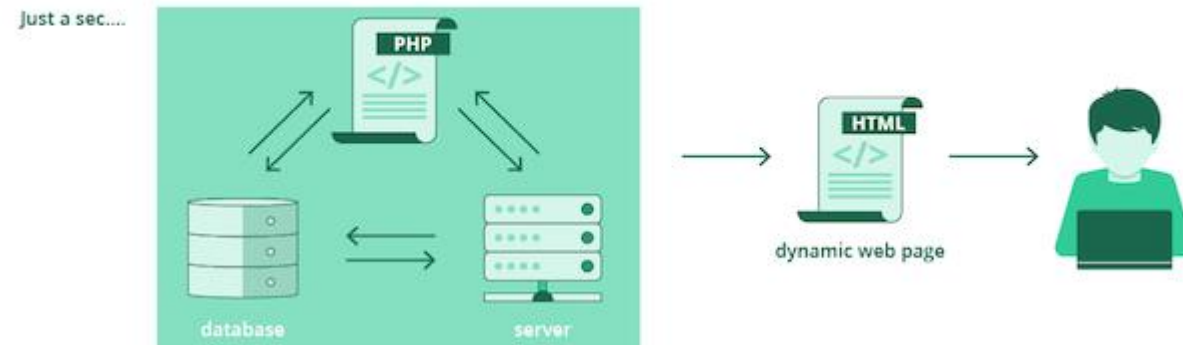
# Static Site Generators

- [https://jamstack.org/generators/?utm\\_source=blog&utm\\_medium=about-ssgs-pnh&utm\\_campaign=devex](https://jamstack.org/generators/?utm_source=blog&utm_medium=about-ssgs-pnh&utm_campaign=devex)

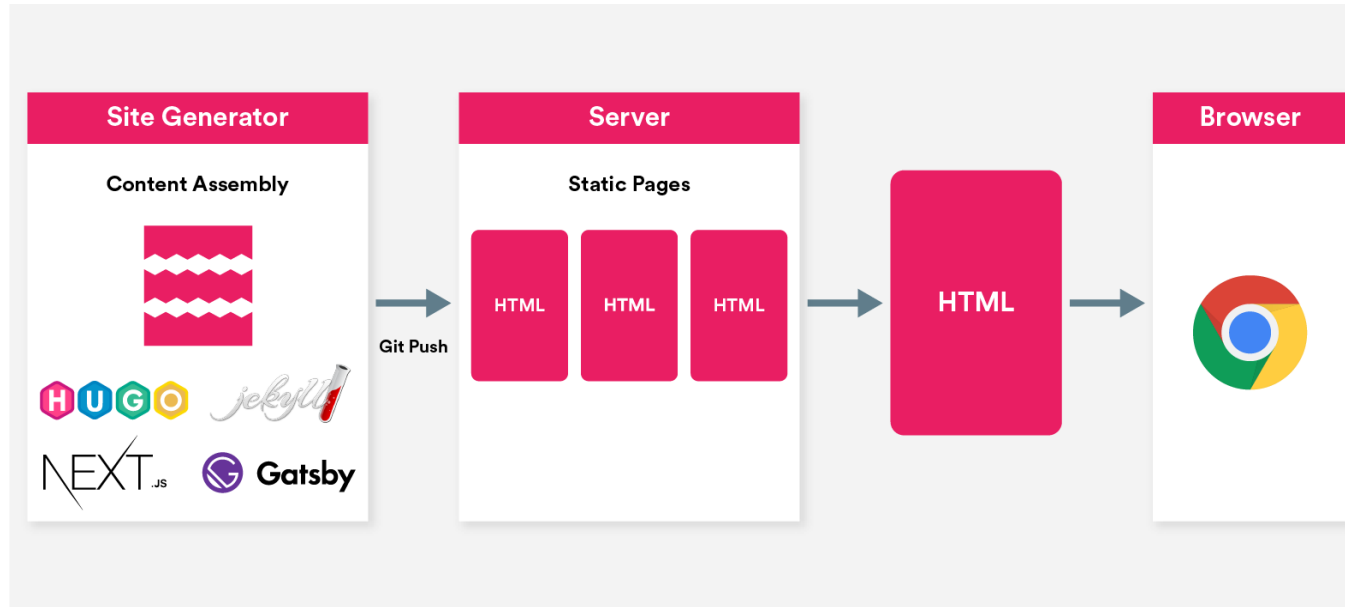
# Static Site Generators



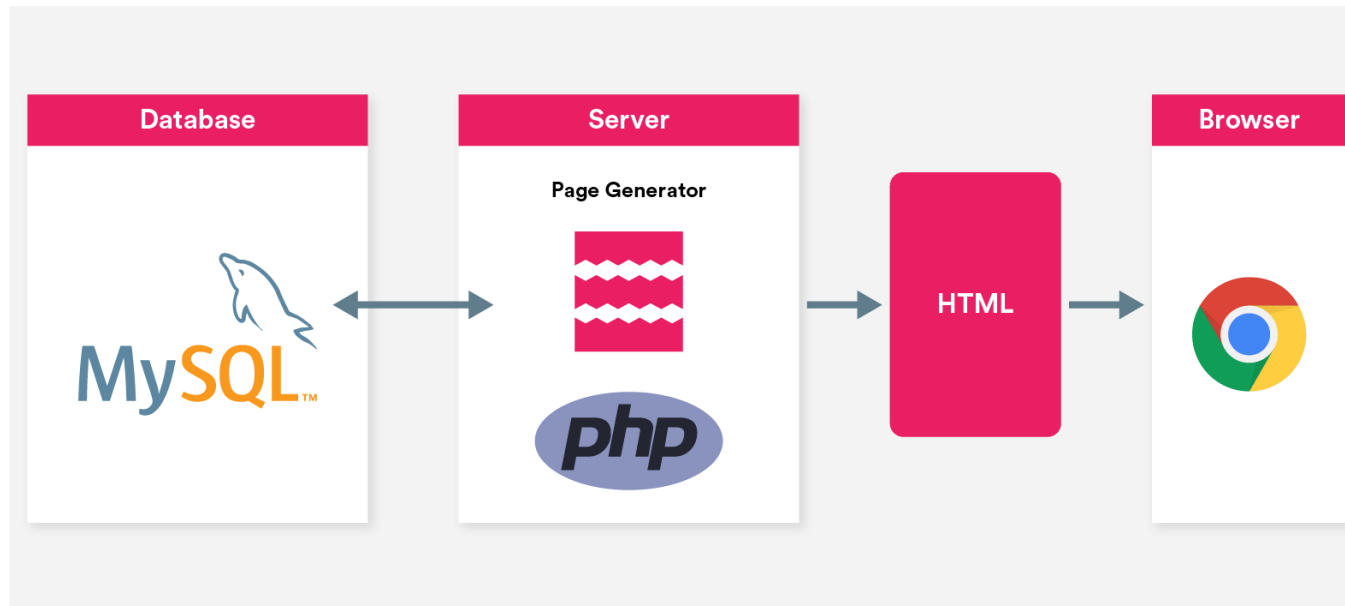
**Calling a website built using a dynamic content management system**



## Static Generators



## Conventional Websites





# Why use static site generators?

- Simple, fast, and extremely secure.
- It's free to host! (except domain name costs)
- No updates required to maintain website
  
- All content easily portable, not confined to any one provider
- Minimum possible risk of platform/vendor lock, as no server dependencies.
- Wix, Wordpress, Squarespace all lock-in nightmares!
  
- Easily extendable for any type of content
- You can write using Markdown and include LaTeX math.

# Why avoid static sites?

- If you hate code or Markdown and just want to point and click out of the box, then something like Wix will perform fine. Noting limitations.
- Static sites can be annoying to debug, particularly if extending themes and templating system
- Requires some programming knowledge to make most of it
- If you need a database (unlikely) or very advanced features – it might not be the right fit, though probably not relevant for branding.

# Academic Branding with Static Sites

- You will have a fast and professional website that showcases your key research achievements.
- Hugo sites are easily indexed by Google Scholar (due to simple code), and therefore your pre-prints etc can appear in results.
- Increases your search engine rankings
- Can extend features, like converting your publications `.bib` to `.html`
- You have full control over content – so it can grow with you for your whole career!



- “The world’s fastest framework for building websites”
- No dependencies to install!!!
- Written in Go
- Relatively simple templating



# Part 2: Creating our Static Site

# Hugo Themes

- **Choosing a theme is the first step!**
- <https://themes.gohugo.io/>
- In principle, you can switch themes without much difficulty.
- In practice, it's fiddly. Decide carefully on a theme before you start.
- A popular theme is Wowchemy (formerly called Academic) — many people use it but I personally recommend something simpler unless you need it all. <https://mounabelaid.netlify.app/>

# My personal choices of Themes

- <https://themes.gohugo.io/>
- <https://demo.nurlan.co/hugo-sustain/>
- <https://hugo-aperio.netlify.app/>
- <https://hugo-profile.netlify.app/>
- <https://hugo-theme-even.netlify.app/>

# Let's start with base Hugo

- **☑ Goals:**
  - Install Hugo (<https://github.com/gohugoio/hugo/releases>)
  - Create a new website
  - Render HTML static site using Hugo locally
  - Perform some minimal customisations
- **This will help you understand key Hugo folders/files**
  - 'content/' directory
  - 'themes/' directory
- **We will not deploy this site (yet)**



# Hugo with R: Blogdown

- Create websites (Hugo) with R
- Can generate R Markdown documents
- Automates some of the setup processes

## **blogdown**

Creating Websites  
with R Markdown



**Yihui Xie**  
**Amber Thomas**  
**Alison Presmanes Hill**

# Part 3: Deployment

# Deployment is Simple!

- I will run through Github deployment in a moment.
- However, it is **critical** to remember that the point of static site generator is that it should be very straight forward to deploy
  - All you need to do is upload the HTML files to any web hosting service
  - This *could* be an option if your website doesn't update often
- An advantage of Github is that when you “commit” your website source-code changes, it will automatically update the website.

# Deployment: Github Pages

- Github Pages is a free service
- Projects ([yourname.github.io/yourproject](https://yourname.github.io/yourproject)) or a personal page ([yourname.github.io](https://yourname.github.io))
- Basically “watches” a folder in your Github repository, and then will serve whatever is in there as an HTML website
- You can use custom domains

Code and automation

🔑 Branches

📁 Tags

▶ Actions

🔗 Webhooks

📄 Environments

🖥️ Codespaces

**📄 Pages**

## GitHub Pages

[GitHub Pages](#) is designed to host your personal, organization, or project pages from a GitHub repository.

### Build and deployment

#### Source

Deploy from a branch ▾

#### Branch

GitHub Pages is currently disabled. Select a source below to enable GitHub Pages for this repository. [Learn more](#).

None ▾

Save

### Visibility

**GITHUB ENTERPRISE**

With a GitHub Enterprise account, you can restrict access to your GitHub Pages site by publishing it privately. A privately published site can only be accessed by people with read access to the repository the site is published from. You can use privately published sites to share your internal documentation or knowledge base with members of your enterprise.

[Try GitHub Enterprise risk-free for 30 days](#)

[Learn more about the visibility of your GitHub Pages site](#)

# Deploying a simple HTML file

- This part assumes some knowledge of Github + an account
- I've already setup a repo for today's talk:  
<https://github.com/humanfactors/2022-Forrest-StaticBranding>
- I've generated an R Markdown HTML file – let's upload it!

# Deploying our Blogdown Site

- Let's deploy our blogdown site and check it works
- It doesn't need to just be Hugo content! Let's try an R Markdown file

# NetlifyCMS

- Netlify is a free hosting and deployment service that integrates with Github and Hugo.
- Rather than Github serving the website, Netlify builds it for you!
- Supports a range of additional features (e.g., admin panel)
- <https://www.netlifycms.org/docs/start-with-a-template/>



# Domains

- <https://www.gandi.net/en-AU>
- <https://domains.google.com/registrar/?pli=1>
- Register for maximum period possible (you won't regret it)
  - Also thanks to this talk I remembered!
- Choose something short and profession (name or relevant to you) but won't likely change:
  - yourname– **com.au .me .site .science**
  - quantiativechemist.com

# Content?

- Build your website ASAP – even if just a landing page.
- Start with a bio of you + page with your academic outputs
- This is why minimal themes a better idea!

## Inspiration?

- As you develop it, things like tutorials, code samples, or blog posts on topics of your expertise are a good move!

# Thankyou!

Questions? Comments?