

# Asherah Connor

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*Software engineer*

Experienced generalist who works across the full stack of web, application and systems technologies. Security- and performance-minded.

## Professional

- 2016–2019 **Senior Systems Engineer**, *GitHub*, San Francisco (remote), US.
- Led the effort to convert all user content on the site from an ad-hoc “organic” Markdown implementation to a standards-based implementation.
    - Migrated more than half a billion items of user content safely without downtime, data loss, or user workflow disruption.
  - Worked on our next-generation code search engine, anonymous request caching tier, backup systems, Git storage systems, and novel datastore experiments.
  - Maintained several core codebases in C, achieving performance in security-critical systems.
  - Collaborated with Microsoft on porting the VFS for Git client to Linux, including writing the FUSE-based filesystem driver and refactoring the NET core.
  - Maintained and evolved our proprietary source code highlighting system, migrating it from an in-process library to a microservice handling millions of requests per hour.
  - Regularly deployed `github.com` and acted as first responder for complex issues.
  - Worked remotely in teams spanning EMEA, APAC and the Americas.
  - Founding member of advisory council regarding inclusion and diversity.
- 2014–2016 **Tech Lead**, *Alliance Software (web dev agency)*, Melbourne, Australia.
- Led efforts to complete and deploy an SMS gateway frontend within a client’s infrastructure (Django, Angular, AWS (RDS, SQS, CloudFormation)), and led technical communication with a partner company implementing payment systems.
  - Performed pre-acquisition due diligence penetration testing for a client.
  - Responsible for and managed technical quality for a number of projects, mostly Django, PHP (WordPress), in-house CMS, and Symfony.
- 2012–2014 **Development Lead**, *Draftable (ISV)*, Melbourne, Australia.
- Led a team of five working on a technologically diverse codebase (Python, C# (SharePoint, Office extensions), F#, Node.js, Chrome extension).
  - Produced a high-quality Microsoft Outlook extension using algorithms developed by academics in-house to cluster documents found in the inbox, inferring and creating a version history by textual and metadata analysis.

- 2008–2012 **Software Engineer**, *Noble Samurai (ISV)*, Melbourne, Australia.
- Led efforts to achieve reliable test suites and repair architecture of mission-critical systems.
  - Application work was in Adobe AIR (HTML/JS/ActionScript), web in PHP and Rails, backend/systems in Erlang, Rails and Node.js.
  - Co-led effort to decompose a monolithic Erlang application based on poorly-defined NoSQL store into several independent REST- and AMQP-based services, backed by a relational store.
  - Maintained account and payment systems, and was primary contact for a long-running project involving co-ordination with several third-party API vendors.
  - Architected and developed a proprietary HTTP proxy with several unique requirements; maintained extremely high performance and reliability in production.
  - Introduced Git to the company and supported our migration from Subversion.

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## Open source

2016–present **Project author/lead**, *comrak*, Rust.  
100% CommonMark (plus GitHub extensions) compatible Markdown parser and renderer for Rust. Used by [crates.io](https://crates.io) and [docs.rs](https://docs.rs) for Markdown rendering. Reddit's new-style site uses a *comrak* fork and its developers contribute back to the project.

2016–2019 **Project lead**, *cmark-gfm*, C.  
Renders all Markdown content on GitHub.com. I forked the upstream [CommonMark standard](#) and its [reference implementation](#), adding extensions for features used by GitHub users to make it a suitable replacement for our old ad-hoc Markdown implementation. I continued to maintain the library (and [derived standard](#)) by keeping parity with upstreams, responding to feature requests, and making bug and security fixes.  
There are many other related projects which I also regularly commit to, such as the [Ruby](#) and [Haskell](#) bindings for the library, plugins for site generators, etc.

2008–present **Contributor**, *many other projects*.  
Features, bug fixes, documentation commits, etc. in dozens of other projects.

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## Skills

Highly experienced	Ruby, Python, C, Go, Git, Rust, PHP, JavaScript, Markdown, Linux
Broad knowledge	AMQP, AWS, Azure, C#, C++, CSS, Clojure, Docker, Erlang, F#, flex/yacc, Haskell, Java, Kubernetes, Lua, macOS, OCaml, Objective-C, OpenBSD, Perl, Protobuf, Puppet, React, Redis, SQL (MySQL, Postgres, SQLite), TypeScript, Windows, x86 assembly, and a motley crew of sh(1)-derivatives
Special interest	Compilers, parsers, virtualisation, low-level systems, FPGAs, Unicode, secure coding practice, programming language theory and design