Sean Allred

Looking for ethical, meaningful,
and valuable work that does good.

(443) 904-1576
jobs@seanallred.com
https://www.seanallred.com

Technical Details

Use the right tool for the job – even when that means picking up something new.
Significant professional experience with the following. Working knowledge of many, many others.

Languages C#, JavaScript, TypeScript, React, Rust, Python, Bash, C, VB6, M, Emacs Lisp

Software O365, GitLab (+ CI/CD), Docker, Visual Studio, deep knowledge of Git

Professional Experience

Foundations
Software Systems Architect
Jan 2015 – (Current)
Epic Systems
Verona, WI

Transferred to Foundations division in June 2021 to assist with our Git migration.

- Git expert for an SVN → Git migration of a 6 million-commit monolith repository maintained by 3000 developers across several dozen largely-autonomous teams. Includes a comprehensive, custom replay of our 15-year SVN history into Git.

- Design, develop, and distribute robust, tinker-friendly developer efficiency tools from the ground up ($\approx$ 75k SLOC), including checkout, review, pull request, and merge queue workflows that integrate into our existing software delivery infrastructure. Tooling is standardized and required across the company (C#, TS, Rust).

- Establish automated testing culture and infrastructure for the new tooling being developed to ensure a high-quality release (Bash, CI/CD).

leadership

- Technical lead for team of $\approx$ 30 developers for the duration of the 3-year project, providing designs, feedback, and prioritization input as well as deliverable software.

- Establish buy-in from leadership for this tooling and training/support plan based on normalized estimates and comparative cost analysis.

mentorship and teaching

- Create training materials for all developers (written content, projects, and exams).

- Train team-designated 'Git gurus' across the company to provide tier-1 support.

- Train internal help-desk staff on Git internals to provide tier-2 support.

measurable results

- Identified and averted multiple disaster scenarios (security, scalability, maintainability, user experience, developer expectations) with the existing implementation within first weeks after transfer.

- Reduced code checkout and merge times from over an hour each to < 10 seconds.

- Spent two days to independently identify performance savings. Prototyped a tool to reduce size of all delivered stylesheets by 11% using new-to-Epic technologies (Rust).

Clinicals
2015 – 2021
Epic Systems
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Six years working on a clinical application. Full-stack developer working with M and VB6 transitioning to a new, proprietary ASP.NET-based platform (M, C#, JS, and TS), designing with customers for the future while keeping them successful in their existing implementation. Our software is the nervous system for healthcare providers both domestic and abroad – with hospital records for well over half the U.S. population.

- Maintain and extend a complex NoSQL database with multiple concurrently-supported versions. Implement multiple data model conversions to support current and future technical needs (M).

- Responsible for a major integrated component of our software over entire tenure – with many projects spanning the course of several months (M, VB6, C#, JS, TS).

- Technical lead for team of $\approx$ 5 developers to migrate this component to new stack.

- Work with core infrastructure teams to design and implement developer tooling – including a new TypeScript-based language that compiles to M.

Junior Software Dev.
June 2014 – Jan 2015
General Dynamics
Fairfax, VA

- Maintain/enhance existing solutions using X window programming (C/C++).

- Redesign graphics foundation layer to adhere to best practices in OO (C++).

- Consolidate duplicated logic and functionality into an NFS mount manager (Bash).

Selected Open Source Contributions

In addition to numerous contributions to other projects (ranging from simple typos to substantial fixes and enhancements), I also maintain many projects of my own on GitHub (@vermiculus). I find great enjoyment and satisfaction in creating and enhancing developer toolsets and workflows.

SX ★708	`vermiculus/sx.el`	Emacs Lisp
A StackExchange (StackOverflow, etc.) client for Emacs		2013 – 2020
Magit ★6.4k	`magit/magit`	Emacs Lisp
The Git porcelain for Emacs		2016 – (present)
libgit2 ★2.4k	`libgit2/libgit2`	C
Add support for worktree-specific configuration		2024
Git ★∞	`git/git`	C
Extensions to `git-var` and documentation updates		2022 – (present)

Personal Information and Interests

- B. A. in Computer Science from St. Mary's Honors College (graduated *cum laude*, class of 2014).
- Experienced user of and contributor to LaTeX, a system used to produce highly consistent documents.
- Formerly an official representative of StackExchange to the international TeX User's Group.

I have several interests in which I have no formal training, but have some experience. These include:

- structured documents, especially in the context of ↓
- literate programming – a documentation-centric paradigm for software development and reproducible research,
- custom electronics and embedded systems,
- language design/development, and
- typography.

Additional details on my projects and interests can be found at `https://www.seanallred.com`.