

SELECTED TECHNICAL DETAILS

Always use the right tool for the job – even when that means picking up something new.
Significant professional experience with the following. Other experience with many, many others.

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

Software O365, *GitLab* (+ CI/CD), *Visual Studio*, *git* (deep knowledge)

SELECTED PROFESSIONAL EXPERIENCE

Software Systems Architect
Jun 2015–(Current)
[Epic Systems](#)
Verona, WI

On the Software Delivery team since June 2021. Within a quarter of transfer, became project direction lead and the team's de-facto Git expert for SVN to Git migration for $\approx 3,000$ software developers. 80% of source control activity is to a multi-trunk (patch promotion) monorepo of over 6 million commits across > 15 years. **Designed all the fundamentals** of developer workflows while integrating into our existing quality tracking and software delivery processes. **Fostered developer ownership** in the larger team after meeting proof-of-concept and getting **leadership buy-in** based on normalized estimates and comparative cost analysis.

- Identified and averted multiple disaster scenarios within first weeks after transfer.
- Designed a standard pull request / merge queue workflow using pure Git functionality sitting atop pre-existing database infrastructure. New workflow improved end-user developer performance perception **from minutes/hours to < 10 seconds**.
- ★ Designed, prototyped, and handed off a new infrastructure for our developer tooling – built from the ground up to teach people how to use Git well.
- Git technical expert for our custom SVN replay solution.
- Designed and implemented automated integrated testing solution, creating an easy-to-use, extensible system and handing it off to others for most maintenance.
- Designed, generated, and consulted for end-user developer training materials: video demos, written lessons, and written projects/exams.
- Taught internal support team the necessary knowledge of Git internals and the major components of our system in order to provide effective support to developers.
- Designed and implemented comprehensive developer documentation solution using unfamiliar technologies – getting **leadership buy-in** to move away from MediaWiki.
- Identified performance optimizations for downloading pre-compiled binaries using tools not yet used by the team **resulting in a $> 10\%$ time savings**.
- During a company-wide performance escalation, spent two days to independently identify new opportunities for savings. Prototyped a tool to **reduce size of all delivered stylesheets by 11%** using unfamiliar technologies.

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

SELECTED EDUCATION AND ACADEMIC EXPERIENCE

Computer Science, B. A.
G. P. A./Major: 3.6/3.9
St. Mary's College
2010–2014
Lexington Park, MD

Honors Dean's List (G. P. A. ≥ 3.5) each semester; Senior Award in Computer Science

Thesis Worked under Dr. Alan Jamieson in simulating self-stabilizing algorithms (used in distributed systems). See <http://github.com/vermiculus/ssa-tool>.

Abroad Studied abroad at [University College Dublin](#) in the Republic of Ireland. Worked with Dr. Pádraig Cunningham researching named-entity recognition (machine learning) and social network analysis in English literature. (Jan–May 2013) See <http://github.com/vermiculus/snael>.

SELECTED OPEN SOURCE CONTRIBUTIONS

In addition to various contributions to other projects (ranging from simple typos to small/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 ★700	vermiculus/sx.el	<i>Emacs</i> Lisp
A StackExchange (StackOverflow, etc.) client for <i>Emacs</i>		2013–(maint)
Magithub ★579	vermiculus/magithub	<i>Emacs</i> Lisp
A Magit-based GitHub client for <i>Emacs</i> (succeeded by Forge ★1.2k)		2016–(maint)
API-Wrap ★47	vermiculus/apiwrap.el	<i>Emacs</i> Lisp
A Lisp macro generating macros to wrap REST APIs with generated functions		2016–(maint)
EMake ★27	vermiculus/emake.el	<i>Emacs</i> Lisp
A build system for <i>Emacs</i> packages in pure <i>Emacs</i> Lisp and Make		2016–(maint)
Magit ★6.1k	magit/magit	<i>Emacs</i> Lisp
The Git porcelain for <i>Emacs</i>		2016–(present)
Git ★∞	git/git	C
Extensions to <code>git-var</code> and documentation updates		2022–(present)

PERSONAL INFORMATION AND INTERESTS

- 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>.