Sean Allred

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Technical Summary

	Some Experience	Proficient/Professional
Languages	C++, Objective C, Rust, Go, Haskell, SQL, Common Lisp/Scheme/Clojure, *Mathematica*	C, C#, Java, VB6, JavaScript, TypeScript, M, Python, Bash, *Emacs* Lisp, TeX, `expl3`
Software	Developer tools for *Chrome*, *Edge*, and *Firefox*, *GitLab*, *Eclipse*, *MySQL*, *PostgreSQL*	*Emacs*, `git`, *TortoiseSVN*, *GitHub*, *Travis CI*, Microsoft Office Suite, *Visual Studio*
OSes	RHEL 5/6	*nix shell, Windows

Excellent communication skills, both written and oral, with experience in literate programming and regularly authoring development designs for technical and non-technical audiences.

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

Selected Professional Experience

Software Developer II
Jan 2015 – (Current)
Epic Systems
Verona, WI

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.

- 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 closely with other teams to provide a consistent user experience.
- Work with core infrastructure teams to design and implement developer tooling – including a new TypeScript-based language that compiles to M.
- ★ Lead a cross-role effort to streamline our team's use of automated testing and overcome technical challenges specific to our domain. Establish team-wide processes.
- ★ Establish team-wide processes to ensure our customers receive high-quality out-of-the-box configuration.
- ★ Develop and teach a curriculum based on C# for co-workers with no prior experience.

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 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

Coursework *Data Structures and Algorithms*, *Design and Analysis of Algorithms*, *Theory of Computation*, *Programming Languages*, and *Small-Scale Computing*

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

Thesis Worked under Dr. Alan Jamieson in simulating self-stabilizing algorithms. 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 and social network analysis in English literature. (Jan – May 2013) See http://github.com/vermiculus/snael.

Selected Open Source Contributions and Pro-Bono Work

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 in enhancing developer toolsets and workflows.

Magithub ⋆565   `vermiculus/magithub`   *Emacs* Lisp
A Magit-based GitHub client for *Emacs* (succeeded by Forge ⋆479)   2016 – (maint)

API-Wrap ⋆43   `vermiculus/apiwrap.el`   *Emacs* Lisp
A set of Lisp macros to wrap REST APIs with generated functions   2016 – (maint)

EMake ⋆18   `vermiculus/emake.el`   *Emacs* Lisp
A build system for *Emacs* packages in pure Elisp/Make   2016 – (maint)

SX ⋆622   `vermiculus/sx.el`   *Emacs* Lisp
A StackExchange client for *Emacs*   2013 – (maint)

`ssa-tool`   `vermiculus/ssa-tool`   Python, NetworkX, PyYAML
An editor for and simulator of self-stabilizing algorithms   2013 – 2014

S. N. A. E. L.   `vermiculus/snael`   (NLTK) Python
A natural language analyzer that constructs social networks   Jan – May 2013

AucTEX-Lua   `vermiculus/auctex-lua`   *Emacs* Lisp
An extension to AucTEX to support embedded Lua code   Aug 2013

ButterSeal   `vermiculus/butterseal`   (LibGDX) Java
An Android game written for *Game Design and Development*   Sept – Dec 2013

LDA/SMC Website   WordPress, discountASP
A new website for the local Learning Disabilities Association   March 28 – 30 2013

Personal Information

- 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.
- Big DIYer for home improvement projects (organization, shelving, plumbing, custom furniture).
- Long-time lover of big-band jazz – I've played valve trombone for over a decade (most recently at MATC).
- Enthusiastically hiking the Ice Age Trail (at least when it's warm enough to bring liquid water).
- Edited and produced a promotional video for a diversity program at St. Mary's College (archived).
- Believer in continuing education and constant curiosity.

Relevant Interests

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`.