Sean Allred

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Technical Summary

	Some Experience	Proficient/Professional
Languages	Rust, C++, Objective C, *Mathematica*, Common Lisp/Scheme/Clojure, SQL	C, C#, Java, VB6, JavaScript, TypeScript, M, Python, Bash, *Emacs* Lisp, TeX, `expl3`
Software	Adobe *After Effects*, *Premiere Pro*, and *Audition*, *Audacity*, *Eclipse*	*Emacs*, `git`, *TortoiseSVN*, *Travis CI*, Microsoft Office Suite, *Visual Studio 2008 – 2017*
OSes	RHEL 5/6	Windows, macOS, Debian/Ubuntu

Excellent communication skills, both written and oral, with experience in literate programming.

Selected Professional Experience

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

Full-stack developer working with M and VB6 transitioning to a new ASP.NET-based platform (M, C#, JS, and TS), designing with customers for the future and solving real problems while keeping them successful with their existing implementation.

- 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 programming 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. ≥ 3.5) each semester; Senior Award in Computer Science

Research 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 documents of high quality and typographical consistency.
- Formerly an official representative of StackExchange to the international TeX User's Group.
- Edited and produced a promotional video for a diversity program at St. Mary's College (archived).
- Maintain/contribute to several open-source projects using more conventional languages, such as *Emacs* Lisp, Python, Java, C, and Objective C. (Contributions include testing, discussion, design, and actual code.)

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 programming, and
- typography.

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