

Josh Wolfe

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Skills

Languages

Python, C and C++, JavaScript, Go, Zig, Java, MIPS Assembly, C#.

Frameworks

Node.js, V8, LLVM, Bare Metal C, SWT, SDL, HTML/CSS, Qt, and more.

Operating Systems

Linux, Windows.

Professional Experience

OkCupid & Archer

April 2018 - June 2025

Backend and infrastructure engineer for dating apps: OkCupid with a 20-year legacy and millions of daily active users, and Archer, a rapidly growing new product I helped create from scratch.

- Co-architected a backend redesign using Go, Kafka, gRPC, DynamoDB, and more.
- Migrated 250+ OkCupid microservices from on-prem to the cloud, introducing Docker, Kubernetes, and ArgoCD, utilizing Redis mirroring.
- Rebuilt and migrated Archer's Kafka cluster, cutting costs by 5x.
- Implemented autoscaling for Archer's Kubernetes microservices.
- Led Core Infrastructure projects as Technical Project Manager, managing Ops and 1-3 engineers.
- Conducted interviews, hiring 7 engineers.
- Researched and documented legacy systems developed by former employees.
- Implemented hybrid on-prem/cloud backend balancing performance and cost.
- Fixed and optimized OkCupid's Boost feature.
- Delivered talks on Kubernetes, high availability, and inclusive software design.
- Developed tools for managing code across dozens of repos.
- Built automation tools to mitigate risk for code refactoring.
- Designed and implemented an international geolocation database.

Igalia, S.L.

May 2016 - Jan 2018

Contributed open-source enhancements to JavaScript in V8/Chromium and standardized tests for Test262.

- Added **internationalization** features to V8's standard library.
- Contributed **BigInt tests** in Test262.
- Implemented trailing commas for function parameters in V8.

DDC-I, Inc.

December 2008 - January 2015

Architect and majority contributor for OpenArbor®, an Eclipse-based IDE in Java for developing safety-critical C/C++ applications.

- Developed a Makefile generator to unify build steps inside and outside the IDE.
- Designed a Time Map tool with Gantt charts to visualize thread and interrupt scheduling.
- Redesigned an embedded test harness in C, achieving a 10x speedup by optimizing network usage and storage.

- Created an embedded Lisp-like interpreter in C, enabling interactive control of Deos APIs.

Contract Work

June 2008 - March 2011

Created an interactive client/server system to control a motor-mounted camera for high-resolution photography of entomology specimens for Arizona State University. Used Python3, C++, and Qt.

Talks

Maintaining Your Love For Passion Projects

May 2024

Given at Software You Can Love: Milan 2024. About my journey developing emotional intelligence and how that helped me identify and avoid drains on my enthusiasm while developing open source software. https://www.youtube.com/watch?v=V-VO0Ua_b4g

Open Source Projects

yazl and yauzl

August 2014 - current

Zip and unzip libraries for Node.js. Yauzl is the most popular unzip implementation on npm with 15M weekly downloads (as of April 2024).

Zig

November 2015 - current

Contributor to the Zig programming language compiler and standard library, and a board member of the non-profit Zig Software Foundation. Designed and implemented much of the original grammar/parsing, expression semantics, C-to-Zig transpiler, and more. Made significant contributions to the JSON support in the standard library.

Loops

August 2018 - current

Yet another rotate-tiles-to-connect-loops game. Mobile friendly!

git-vendor

May 2022 - current

Alternative to git submodules that avoids all the headaches. This is the most polished of my projects to enhance/replace git with a better version control system.

Groove Basin

January 2012 - current

A music player server with a web-based user interface written in JavaScript for Node.js and the browser. Co-authored with Andrew Kelley.

Snakefall

July 2015 - current

A clone of Snakebird by Noumenon Games for the browser featuring a level editor to encourage community-made levels.

Legend of Swarkland

January 2015 - current

Rogue-like hack-n-slash game inspired by Nethack originally written in C++ using SDL, then rewritten in Zig.

Board Gamer 2d

August 2015 - current

Multiplayer board game and card game simulator for the browser.

Maze Generator

November 2014 - current

An exploration of different maze generating algorithms on different topological spaces. Has some statistical analysis built in.

whitespace_lint

May 2014 - current

Checks for and fixes whitespace mistakes like trailing spaces, mixed newline styles, and mixed indentation styles. Written in Python.

wolfebin

August 2011 - January 2021

Quick and easy file sharing client and server written in Python for the command line.

Jax Compiler

May 2009 - December 2010

Java-like language that compiles to Java .class files and runs in the JVM.

Dorp Compiler

February 2013 - October 2014

A statically-typed language with full type inference. Uses LLVM to output native machine code.

MIPS-OS

August 2008 - December 2010

A simplified MIPS simulator and debugger featuring preemptive scheduling. Debugger supports go, step, setting breakpoints, and showing source code and registers.

svn-color

August 2012 - October 2014

Wraps /bin/svn and decorates and formats the output with terminal color.

Matrix Processor

February 2009 - May 2009

REPL-enabled interpreter for performing mundane matrix operations to check my work in Linear Algebra class.

Education**Arizona State University**

January 2007 - August 2012

Bachelor of Science in Computer Science from the Ira A. Fulton School of Engineering.