

Jeff Walker

“Not only working software,
but also *well-crafted software*”
—*Manifesto for Software Craftsmanship*

Software Craftsman

Twenty-two years of experience as a software developer and architect * Agile * Cloud * Design Patterns * Refactoring * Domain Driven Design (DDD) * Full-stack

“writes code as fast and as beautiful as any developer I’ve known.” —Craig McKeachie

“very detail oriented and meticulous, consistently producing top-quality work.” —Scott Walker

“one of the most talented developers that I’ve had the opportunity to work with.” —Keith Byers

Language Designer

AZOTH: Pivoted to working on Azoth, a language with reference capabilities and structured concurrency * Adapted Adamant language reference and compiler to Azoth * Migrated compiler to rewritable reference attributed grammar (ReRAG) approach with code generation * Experimented with nanopass approach

ADAMANT: Conceived and designed a new programming language * Wrote a compiler for a subset * Drafted a Language Reference * Created a VSCode extension for syntax highlighting * Researched language design including: Rust, Swift, C#, Scala, Project Midori, Java, Kotlin, Idris, Pony, Fortress, and JAI * Researched compiler construction tools & type systems for memory management

OTHER: Revised a Domain Specific Language (DSL) design for TDCI * Created a Scheme variant and interpreter for a college winter-term project

Portfolio

SemVer NuGet Package
Azoth Language Site
Azoth Compiler
ExhaustiveMatching.Analyzer
Adamant Lang. Site, Blog, & Docs
Adamant Compiler
Algorithm Comparison: Rust and C#
Software Development Blog
JavaScript Minefield (six post series)

github.com/WalkerCodeRanger/semver
azoth-lang.org
github.com/azoth-lang/azoth.tools.bootstrap
github.com/WalkerCodeRanger/ExhaustiveMatching
adamant-lang.org blog.adamant-lang.org/archive
github.com/adamant/adamant.tools.compiler.bootstrap
github.com/WalkerCodeRanger/dfaMinimizationComparison
WalkerCodeRanger.com/blog
WalkerCodeRanger.com/blog/2014/02/javascript-minefield

Participative Tech. Leader

DEEPCELL: Technical lead and software architect of the instrument software team * Joined before Series A * Team started as myself and one junior developer * Hired until the team was myself, six developers, an SDET and a technical manager * Developed software for multiple generations of prototype instruments and the final REM-I instrument * Involved in all aspects of the instrument software including product design, UI, gathering requirements from internal users, and project management * Designed a framework for devices and device connections * Designed and implemented a framework for units of measurement * Designed and implemented a framework for safe concurrency in WPF and enabling structured concurrency * Designed and implemented framework for advanced time series data management and computation on the instrument * Code review * Mentorship * Set code conventions and set up tools to aid and enforce them

SCHOOLPOINTE: Head of all technical employees; reported directly to president * Managed four developers and a sysadmin working on three products serving 375+ school districts * Multiple successful hires * Created product design for Learning Management System (LMS) * Architect and lead developer of LMS, a hosted web app deployed to AWS * Learned and used DynamoDB * Oversaw improvements to architecture leading to increased uptime and reduced costs * Led push to consolidate code bases, putting the company in a stronger position to innovate * Oversaw start of transition to a DevOps approach including infrastructure as code and zero-downtime deployments

PRIMARY FINANCIAL COMPANY: Tech. lead of a six developer team * Software architect * Implemented an Agile methodology and a Domain Driven Design (DDD) approach * Collaborated with the customer to understand the domain and domain language * Designed the domain model * Performed all code reviews * Mentored junior team members

Experience

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|------------------------|---|------------------|
| Aug. 2019 – Mar. 2024 | Deepcell | deepcell.com |
| Oct. 2020 – Present | <i>Azoth Programming Language</i> Independent Project | azoth-lang.org |
| May 2018 – Aug. 2020 | <i>Adamant Programming Language</i> Independent Project | adamant-lang.org |
| Feb. 2017 – Sept. 2018 | Affinion Group Consultant via The Execu Search Group | execu-search.com |
| Feb. 2016 – Jan. 2017 | <i>Adamantworks/Sabbatical</i> Started Adamantworks LLC | |
| Sept. 2013 – Jan. 2016 | SchoolPointe | |
| Aug. 2012 – Sept. 2013 | Apprisen Consultant via Quick Solutions | apprisen.com |
| May 2010 – Aug. 2012 | Primary Financial Company Consultant via Quick Solutions | epfc.com |
| Apr. 2010 | Resource Interactive Consultant via Information Control Corporation | |
| Oct. 2009 – Feb. 2010 | Information Control Corporation | |
| Oct. 2008 – Aug. 2009 | TDCI | |
| June–Oct. 2008 | Chase Consultant via Quick Solutions | chase.com |
| Dec. 2007 – May 2008 | United Healthcare Consultant via Oxford Consulting | uhc.com |
| July 2004 – Nov. 2007 | Foresight Corporation Hired full-time Oct. 2004 | |
| Aug. 2002 – June 2004 | Optimum Technology | otech.com |
| Spring 2002 | <i>Advanced Topics in Object-Oriented Programming</i> ExCo (Experimental College) Instructor at Oberlin College Received three credits for teaching an ExCo course at Oberlin College | |

Publications

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|----------------------|---|
| Sept. 2023 | COSMOS: a platform for real-time morphology-based, label-free cell sorting using deep learning |
| (Preprint) Mar. 2022 | Realtime morphological characterization and sorting of unlabeled viable cells using deep learning |

Education

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| May 2002 | <i>B.A. in Computer Science, Minor in Mathematics</i> OBERLIN COLLEGE | oberlin.edu |
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Core Skills

C# * Agile * Design Patterns * Refactoring * Domain Driven Design (DDD) * Domain Modeling * Software Architecture * Mentoring * Technical Leadership * Code Review * Instrument Software * Programming Language Design * Structured Concurrency * ASP.NET MVC * HTML * CSS * JavaScript * Management * Compilers * SQL * SQL Server * Hiring * Agile and Lean Project Management * Domain Specific Language (DSL) Design * Product Design

Experience With

Reactive Extensions (Rx.NET) * Reactive UI * async/await * Windows Presentation Foundation (WPF) * Test-Driven Development (TDD) * IoC Containers * Simple Injector * Pair Programming * NodaTime * Task-like types * Cloud Migration * Blue-green Deployment * Amazon Web Services (AWS) * S3 * DynamoDB * NHibernate * T4 Templates * Python * Roslyn Analyzers * UML * Scrum * Rust * Less * jQuery * XML * Parser Generators * Entrepreneurship * DevOps * XAML * SQL Azure * Azure Cloud * Azure Queues * Oracle Server * Behavior-Driven Development (BDD) * Publishing NuGet Packages * ASP.NET Forms * C/C++ * Many more