

David Vedvick

Senior Software Engineer

Senior software developer with 15+ years of experience in software development and technical leadership, delivering reliable, valuable, and performant software through customer collaboration and a focus on best practices.

Contact

- E-mail: dvedvick@gmail.com
- Phone: 904-469-1338

Skills

- C#, .Net Core/Framework, ASP.Net, Entity Framework
- Javascript, Typescript, ReactJS, NodeJS
- Python, Flask
- SQL Server, SQLite, Oracle
- WPF, WinForms, Windows APIs
- Building, deploying, and running on Docker
- Powershell and bash scripting
- Version Control systems: mostly git, but Teams, SVN, and Perforce experience as well
- Kotlin, Java, and Android API experience
- Test-Driven Development and algorithm optimization
- Practical experience with Event Driven and Clean Code architectures
- Extensive experience with agile and scrum methodologies
- Enjoys working with other engineers to build reliable systems through pair/mob programming

Experience

Zeiss Industrial Quality Solutions

September 2021 – Present

Senior Software Engineer, Surface Inspection Automation

March 2024 - Present

1. Improved a surface inspection automation service.
 1. Improved release consistency as measured by frequency to approximately 1 per month by adding working continuous integration for the service.
 2. Removed state from the application with no regressions by adding existing integration tests into the CI pipeline and adding unit tests with coverage around 60%.

Senior Software Engineer, In-Process Additive Manufacturing Inspection

September 2021 - March 2024

1. Accelerated 1.0 product release within first year of joining by:
 - Improving application uptime by eliminating significant memory leaks.
 - Bringing test coverage from 0% to ~50% in main application, improving resilience of application to breaking changes.
 - Delivering major product features, such as camera calibration, by developing a flexible codebase that was easy to adapt to feedback from the product owner and users.
2. Increased data storage capabilities by porting database from SQL Server Express with a 10GB data limit to SQLite, both improving application performance by reducing overhead, and allowing more data to be persisted.
3. Improved image processing algorithm from ~200ms to ~60ms, reducing feedback time to the Additive system, by reducing allocations and improving pointer math.
4. Improved customer build quality reporting by creating a PDF engine capable of generating large PDF reports, using our existing web UI to provide consistency.

Protolabs, Pricing Team

July 2015 – September 2021

Technical Lead

March 2019 – September 2021

1. Aided product management in the development of future e-commerce product enhancements, such as secondary operations and instant quoting, by assessing their requirements and collaborating with other teams on implementation strategies.
2. Improved reliability of software in my team by championing unit testing, automated acceptance testing, and pair programming, leading to fewer issues post-deployment.
3. Accomplished a successful migration of the pricing software to the company's new e-commerce platform while maintaining high uptime on existing platform by:
 - Developing and executing on a plan to simultaneously run on .Net Framework/IIS and .Net Core/Docker, enabling other teams to develop the new E-Commerce software around pricing software that operated consistently, while giving the pricing manager access to new features.
 - Migrating Dependency Injection container from Unity to Microsoft DI, enabling smoother integration with the new platform and with the modern dotnet stack.
 - Migrated pricing data to the new platform while the service was live, requiring minimal downtime at launch of new platform.
 - Optimized offer lookup using the new catalog system during pricing by converting a denormalized list to a lookup table, reducing time complexity from $O(n^2)$ to $O(n)$.

Senior Software Engineer

April 2016 – March 2019

1. Enabled new products, such as on-demand injection molding, by replacing the existing injection molding pricing engine.
2. Developed from the ground up utilizing industry best practices in test-driven development, pair programming, and automated acceptance testing
 - System replaced earlier pricing engine within a monolithic code base.
 - Re-written from scratch over the course of 1 and 1/2 years.
 - Went live with no defects nor changes in quoted prices.
 - Proved flexibility of new software by developing and deploying major new features in under 6 months.

1. Improved existing Protolabs software as a support engineer.
 - Achieved higher throughput of PDF versions of quotes, reducing a large backlog of quotes to be processed, by implementing a single input multi-dispatch queue for quote processing.
2. Joined Protolabs' pricing team to help with effort to write a new pricing engine for Protolabs' Injection Molding service.

More employment history available at <https://davidvedvick.info/resume>

Education

Master of Science in Software Engineering; University of St. Thomas (December 2022)

Graduate Certificate in Artificial Intelligence

Bachelor's of Science in Computer Engineering; North Dakota State University (December 2009)

Minor in Computer Science

Online

- <https://davidvedvick.info> — Personal site, portfolio, and blog
- <https://github.com/davidvedvick/> — GitHub profile
- <https://www.linkedin.com/in/davidvedvick/> — LinkedIn profile

Certifications

NCEES Fundamentals of Engineering Exam (November 2009)