

# SCOTT W HARDEN, DMD, PhD

Gainesville, Florida | [SWHarden@gmail.com](mailto:SWHarden@gmail.com) | [SWHarden.com](http://SWHarden.com) | [@swharden](https://twitter.com/swharden) | [LinkedIn.com/in/swharden](https://www.linkedin.com/in/swharden) | 352-451-6240

Software developer with over ten years of experience creating technical solutions for scientific, industrial, and biomedical applications. With advanced degrees in clinical and biomedical science, my interdisciplinary experience enables me to collaborate with domain experts to develop innovative solutions at the intersection of science and technology.

## SKILLS

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**Primary Languages:** C# / .NET, Python

**Additional Experience:** ASP.NET Core, AWS, Avalonia, Azure, Blazor Server, Blazor WebAssembly, C, C++, CSS, Docker, Git, HTML, Java, JavaScript, Linux, .NET MAUI, NuGet, PHP, React, SQL, TypeScript, Windows Forms, WinUI, WPF

## EXPERIENCE

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**Research Scientist** (2018-present) University of Florida

- Designed and implemented advanced domain-specific software to analyze and visualize complex electrical and optical data using a variety of technologies including C#, C/C++, Python, ASP.NET, Blazor, and JavaScript
- Created and maintained automated data analysis workflows used by over 30 scientists on over 150 projects
- Mentored more than 20 junior scientists, providing technical training and oversight for complex multi-year projects

**Software Developer** (2018-present) Harden Technologies, LLC

- Developed custom software and hardware solutions for clients including custom data visualization solutions, automated analysis and report generation, and embedded biomedical device design and manufacturing

**Software Developer** (2019-present) ScottPlot.NET

- Served as the lead maintainer of a large open source C#/.NET package for scientific data analysis and visualization
- 2.8M NuGet installs, 5.5k GitHub stars, 170 contributors, used in 2k GitHub projects, 4.5k resolved issues and PRs

**Pre & Postdoctoral Researcher** (2012-2018) University of Florida

- Developed application-specific software to enable automated analysis of electrical and optical data
- Supported projects resulting in 16 primary and co-author publications in scientific journals

## PROJECTS

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- [ScottPlot](#) - .NET package for data visualization with 2.8M installs, 5.5k GitHub stars, used in 2k GitHub projects
- [PyABF](#) - Python package for signal analysis of electrophysiology data, continuously maintained for over 7 years
- [LJPcalc](#) - Blazor WebAssembly application for calculating liquid junction potential referenced in over 50 publications
- [QRSS Plus](#) - Cloud native web app for visualizing radio frequency spectrograms continuously maintained since 2013
- [FftSharp](#) - .NET package enabling hardware-agnostic fast Fourier transform (FFT) calculation of complex datasets
- [Spectrogram](#) - .NET package for real-time analysis of streaming signal data in both time and frequency domains
- [FSKView](#) - Desktop application enabling real time monitoring of ultra narrowband frequency shift keyed radio signals
- [RF Counter](#) - Embedded device for precision frequency measurement and pulse counting with a USB interface
- [Portfolio](#) - Additional hardware and software projects with links to source code and demos that run in the browser

## EDUCATION

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| • Doctor of Philosophy (PhD) - Biomedical Science / Neuroscience | University of Florida         | 2012-2016 |
| • Doctor of Dental Medicine (DMD) - College of Dentistry         | University of Florida         | 2009-2016 |
| • Master of Science (MS) - Molecular Biology & Microbiology      | University of Central Florida | 2007-2009 |