Sandhya Arcot

Senior Software Developer | AI-Driven .NET Engineer | WPF Specialist

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# ABOUT ME

I’m Sandhya Arcot, a Senior Software Developer with over 15 years of experience designing and building intelligent, high-performance applications across healthcare, imaging, and life sciences. My expertise lies in C#, .NET, WPF, and MVVM, where I focus on crafting scalable, maintainable, and intuitive software systems that merge technical precision with human-centered design.

At Standard BioTools (Fluidigm), I’ve led modernization efforts transforming legacy WinForms applications into modular WPF architectures, introduced microservices and .NET Minimal APIs, and containerized workflows using Azure DevOps for CI/CD automation. I thrive at the intersection of architecture and innovation, integrating AI-assisted development tools like GitHub Copilot to accelerate feature delivery and improve development efficiency.

Previously, at Siemens Healthcare, I worked on FDA-compliant diagnostic imaging systems, specializing in multi-threaded performance, DICOM interoperability, and real-time visualization modules. My work has consistently focused on building reliable, well-architected software that empowers researchers and clinicians in critical environments.

I’m passionate about continuous learning, mentoring, and exploring how AI can reshape software engineering. Whether architecting systems or refining user experiences, I bring curiosity, clarity, and craftsmanship to every project.

# AREAS OF EXPERTISE

Languages & Frameworks: C#, .NET 6, .NET Framework 4.8, WPF, MVVM, LINQ, XAML

UI/UX: XAML Styling, Custom Controls, Telerik UI, DevExpress, User-Centered Design

Database & Persistence: SQL Server, SQLite, Entity Framework Core, ADO.NET

Tooling & DevOps: GitHub, GitHub Copilot, Azure DevOps, CI/CD Pipelines

Testing & Quality: NUnit, Integration Testing, Performance Profiling, Debugging Multithreaded Code

Specialized Domains: Imaging Algorithms, DICOM, Mass Cytometry (CyTOF®), AI-Assisted Development

# WORK EXPERIENCE

## Standard Bio Tools

Staff Engineer

2024 – Present  
Markham| ON, Canada

Led modernization initiatives by breaking down monolithic application modules into isolated services for improved scalability and maintainability.

Introduced .NET Minimal APIs to create lightweight RESTful services, decoupling performance-heavy workflows from the WPF client.

Leveraged Entity Framework Core with service-specific databases to improve data ownership and align with microservices best practices.

Advocated for domain-driven design and clean architecture patterns to simplify onboarding and reduce technical debt.

Partnered with DevOps to containerize new services with Docker and integrate automated builds and deployments into CI/CD pipelines.

Adopted GitHub Copilot (based on OpenAI Codex) within Visual Studio to accelerate development of complex algorithms.

Optimized workflows for traversing and ablating complex polygon shapes in imaging mass cytometry instruments, reducing development time by ~50% while maintaining precision and performance.

Mentored teams on API-first development, service contracts, and testing strategies (NUnit, integration testing).

## Standard Bio Tools

Senior Software Developer

2018 – 2023  
Markham| ON, Canada

Contributed to CyTOF® systems—mass cytometry by time-of-flight technology that enables researchers to analyze 50+ markers on millions of single cells, advancing discoveries in immunology, cancer, and stem cell research.

Migrated legacy WinForms systems to WPF using MVVM and MEF, enhancing scalability and maintainability.

Built a custom Windows OS–integrated notification service (Toast notifications).

Resolved critical stability and concurrency issues in multithreaded applications.

Developed and maintained databases using Entity Framework.

## Siemens Healthcare

Software Developer

2011 – 2018

Bangalore| India

Developed and optimized WPF modules for diagnostic imaging tools, focusing on DICOM interoperability and 3D reconstruction.

Collaborated in agile teams to deliver FDA-compliant medical imaging software for CT andMRI systems.

Integrated real-time debugging, error tracing, and patient data validation for mission-critical workflows.

Worked with cross-functional teams across Germany and India to align development cycles with product releases.

## Tata Consultancy Services

Software Engineer

2008 - 2011

Bangalore| India

Built enterprise WPF/WCF-based insurance management applications using MVVM architecture.

Collaborated with business analysts and clients to gather requirements and enhance UI/UX workflows.

Designed reusable and modular XAML components, reducing UI code duplication by 35%.

Provided production support for distributed systems and optimized SQL queries for performance gains.

# EDUCATION & CERTIFICATIONS

Bachelor of Engineering in Biotechnology, BMS College of Engineering (Visvesvaraya Technological University), India — 2008

Microsoft Certifications: .NET Framework Architecture, WPF, Programming in C#