William Barnhill

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SUMMARY:

Experienced **Senior Software Engineer** with over **13 years** of expertise in **application design, development, and maintenance**. Specializing in **Microsoft Technologies**, **.NET**, and **cloud-native solutions**, I have a proven track record of building scalable, high-performance applications. Skilled in both **frontend** and **backend** development, I have extensive experience with **React, Angular**, and **Vue** for creating responsive, user-centric interfaces, improving user experience by optimizing performance and usability.

In-depth knowledge of **Microservices, REST APIs, Azure DevOps**, and **Kubernetes** to deliver cloud-based solutions that are both scalable and resilient. Proficient in **.NET Core, C#**, and **SQL Server**, with a strong focus on design **patterns, SOLID principles**, and **agile development**. I have successfully led cross-functional teams to deliver end-to-end software solutions in a variety of industries, **including healthcare, finance**, and **SaaS**.

EXPERIENCE:

Meta | Columbiana, OH | Remote   08/2020 – 04/2025
Senior Software Engineer / Senior Software Architecture

Responsibilities:

- **Refactored** a 20-year-old software suite, reducing system **downtime** by 13% and **support tickets** by 22%, by implementing **modern design patterns** and optimizing legacy code for scalability and performance.

- **Migrated the entire system** to a **new Azure tenant** as part of the client's **Azure rationalization program**. **Designed and implemented** a large-scale bespoke data migration between **Cosmos DB** instances. Reconfigured Azure Active Directory authentication.

- **Implemented a scalable ETL pipeline in Azure Databricks** to process large volumes of healthcare data from multiple sources, integrating SQL Server, CosmosDB, and cloud storage for efficient data transformation and analytics.

- **Relocated database schema designs** in our production environments with a keen eye for preventing service interruptions.

- **Utilized .NET 6, Azure DevOps, and AWS** and created a scalable data warehouse to serve consumer, mobile, and admin interfaces with **healthcare data**.

- **Pulled the Fast Healthcare Interoperability Resources (FHIR)** and **EDI X12** data from multiple insurance providers and stored them in **DynamoDB** using **AWS Fargate/Amazon ECS**.

- **Designed and implemented** the **SQL database** using **Entity Framework 6** in conjunction with **Azure Cognitive Search** for filtering, facetting, full-text searching, auto-complete suggestions, and recommendation engine.

- **Developed a self-guided wizard** for creating a dashboard. The front end was done using **Angular**, and the back end using **.Net Core**. The database was a SQL server, and T-SQL was used for developing stored procedures.

- **Used .NET 5 Core**, **Docker containers, Azure App Service, and Kubernetes** to create a health service application API. Constructed the build and release pipelines using **Azure DevOps** to serve multi-environment deployments consistently and reliably.
- **Developed** a multi-thread application with high performance and availability to process alarm events from about 40,000 clients and millions of events per day using **.NET Core, SQL Server**, and **RabbitMQ**.
- Created a **REST API** using **.NET 6** to manage the workflow of the business process, integrating the automatic and interactive user steps. **Automatic steps** run **asynchronously** as **background workers** and are called using a **RabbitMQ** queue.
- **Created Azure B2C** custom policies to allow up to 20,000 users to be **registered** and **authenticated** to use mobile apps (**iOS** and **Android**) using the **MSAL library**.
- **Created a microservice** for integration with **credit card brokers** to be used by all internal applications for collecting credit card payments. It was a **REST API** developed in **.NET Core**.
- **Developed a sales web portal** using **React** to automate the entry of a new customer with approval flows and credit analysis. Used **.NET 4.5** and **SQL Server**.
- **Integrated a customized Swagger UI** in a **.NET Framework 4.8-based monolithic solution**, configuring it to display specific **APIs** or endpoints. This ensured internal **API documentation** remained concealed from external clients for enhanced security.
- **Reduced the client-facing webpage** load time from **30+ seconds** to **only milliseconds** by minimizing database round trips using **Entity Framework 6** for efficient **stored procedure** result-to-entity translation.
- **Built a credit monitoring API for B2B consumers** to find out if a consumer's identity is for sale on the dark web using C#, a web API, AWS, Amazon MQ, Fargate Elastic Container Service, and Docker containers.
- **Designed and implemented Microservice architecture** with services interacting via **REST APIs**, leveraging Azure DevOps for build, testing, and deployment pipelines, ensuring high availability and scalability.
- **Led architecture decisions** for shared components across multiple software projects in **C# .NET** 4.0, 5.0, and 6.0, ensuring **consistency** and high-quality deliverables across teams.
- **Developed** a custom **Visual Studio 2008 package** integrating **TFS** with **file-sharing** functionality, streamlining workflow for 50+ developers and enhancing team **productivity**.
- **Integrated** a custom **pricing service** with the **Bloomberg API** for **real-time** and **delayed pricing**, improving **pricing accuracy** and **compliance**.
- **Implemented complex UI components** in **Angular** for managing **healthcare data**, improving **user workflows** and reducing task completion time.
- **Developed** a custom controls library in **Angular** to share the visual standard controls for the **micro web apps**.
- **Developed four-tier security** to be implemented in all APIs accessible by external parties. It included a **signature-based** x-sign header, **time-based** validity verification header, **API invocation** permission control header, and **JWT token** authorization.
- **Developed** automated **margin calculation reports** for custodian agreements, enhancing **decision-making** and providing actionable insights into **risk** and **statistics**.
- **Designed and deployed** a **microservices-based .NET Core application** in **Docker containers**, orchestrated via **Azure Kubernetes Service (AKS)**, improving deployment speed and scalability by 40%.
- **Implemented Prometheus** and **Grafana** for cloud monitoring in an **AKS cluster**, improving monitoring efficiency across multiple **cloud platforms**.
- **Created a HIPAA-compliant chat service** for healthcare **SaaS** using **XMPP** and **Strophe**, integrated via a custom **.NET Web API framework**, improving communication and ensuring compliance.

- **Reviewed** the designs created by the **team developers**, highlighted the good points and improvements that could be made, and ensured that the implementation was according to the design. Wrote coding standards and best practices guides.
- **Adobe** Launch was configured and implemented to manage and deploy analytics tags efficiently across multiple digital properties.
- **Custom** data layers were developed and maintained to ensure accurate tracking and reporting of user interactions.
- **Event**-based tracking solutions were designed and deployed using Adobe Launch Rules, ensuring seamless data collection for marketing and analytics teams.
- **JavaScript** and custom scripts were written to enhance tag management functionalities and enable dynamic data capture.
- **Integrations** with **Adobe Analytics**, **Google Analytics**, and **third**-**party** marketing tools were developed and tested for accurate data flow.
- **Debugging** and troubleshooting of Adobe Launch implementations were performed using browser developer tools and Adobe Debugger.
- **Best** practices for performance optimization and security compliance in tag implementation were ensured.
- **Collaboration** with marketing, analytics, and development teams was conducted to gather tracking requirements and implement appropriate solutions.
- **Documentation** and training materials were created to assist teams in understanding Adobe Launch configurations and tracking methodologies.
- **Continuous** monitoring and improvements to tag performance and tracking accuracy were carried out based on analytics insights and business needs.
- **Developed** and maintained dental claims processing applications using Facets to ensure seamless claim adjudication and provider payments.
- **Designed** and implemented EDI 837D transaction processing workflows to streamline electronic claims submissions and compliance with HIPAA standards.
- **Built** and optimized microservices architecture using .NET Core to support scalable and modular healthcare applications.
- **Developed** and maintained Angular and Single-SPA micro frontend applications, enabling a modular and dynamic user experience.
- **Integrated** Facets APIs and third-party services to enhance claims validation, adjudication, and provider network management.
- **Implemented** automated unit and integration testing using xUnit, NUnit, and Jest to ensure code reliability and maintainability.
- **Designed** and developed secure and scalable RESTful APIs for real-time claims processing and provider communications.
- **Optimized** SQL Server and NoSQL databases for efficient storage, retrieval, and processing of claims and provider data.
- **Led** and collaborated with cross-functional teams in Agile (Scrum/Kanban) environments to develop and deploy feature-rich applications.
- **Implemented** CI/CD pipelines with Azure DevOps and Docker to streamline deployment and improve development workflows.

- **Developed** reusable Angular components and shared libraries for consistent UI/UX across multiple micro frontend applications.
- **Ensured** regulatory compliance (**HIPAA**, **HITECH**) by implementing robust security measures and audit logging in claims processing applications.
- Developed and customized Siemens Opcenter EX / Camstar MES solutions to optimize manufacturing workflows, ensuring seamless integration with ERP and SCADA systems.
- Designed and implemented data models and mapping strategies for manufacturing processes, enabling accurate tracking, genealogy, and real-time production analytics.
- Built and configured business rules, workflows, and UI customizations within **Camstar MES** to improve operational efficiency and standardize manufacturing execution.
- Developed API integrations and web services to connect **Opcenter MES** with external enterprise applications, enhancing interoperability and data flow.
- Led end-to-end MES implementations, including system design, development, and deployment, ensuring minimal production downtime during rollouts.
- Optimized performance and scalability of MES applications by refactoring code, improving database queries, and implementing best practices for system efficiency.
- Developed and maintained custom reports and dashboards within **Opcenter/Camstar** to provide stakeholders with real-time insights into manufacturing KPIs.
- Implemented automated data validation and error-handling mechanisms within **MES** to ensure data integrity and compliance with industry standards (FDA, ISO, GMP).
- Conducted troubleshooting, debugging, and root cause analysis for **MES**-related issues, collaborating with cross-functional teams to implement long-term fixes.
- Worked closely with manufacturing engineers, IT teams, and business stakeholders to align MES functionalities with production goals and continuous improvement initiatives.

   Environment: GCP**,** Cosmos DB, ASP, C#, MySQL, Blazor, Windows Forms (WinForms), VBScript, Azure, Microservices, Enterprise Service Bus (ESB), .NET, Angular, React, Azure DevOps, Azure Pipelines, WebSockets, Full-stack, Networks, CI/CD Pipelines, REST APIs, CSS3, Responsive Web Design (RWD), Front-end, ASP.NET, Cloud, ASP.NET Web Form, .NET Core, Solution Architecture, Data Architecture, Data Engineering, APIs, Data, Databases, Integration, DB, Mentoring, NPM, System Design, Software Design, Microservices Architecture, Git, Source Tree, SQL Server Integration Services (SSIS), Microsoft Power BI

Blacc Spot Media | Atlanta, GE | Remote   **04/2017 – 08/2020**
Senior .NET Engineer

 Responsibilities:

- **Designed and implemented** a **cloud video platform** for 700 locations, enabling **video-on-demand**, **live streaming**, and **document sharing**, resulting in a **35% increase** in **user engagement**.
- **Created and optimized REST APIs** and **WCF services** for seamless data exchange, improving **system interoperability** and reducing **latency** by 15%.
- **Utilized SQL Server Reporting Services** (**SSRS**) to design detailed reports and aggregate data, enhancing **decision-making** and increasing **data-driven** insights by 20%.
- **Integrated Twilio API**, **webhooks**, and **Dynatrace**, improving communication and platform **monitoring**, reducing **system downtime** by 10%.
- **Played a key role** in the design and development of a **Manufacturing Execution System** (**MES**), improving **operational efficiencies** by 25%.

- **Mentored** staff on new technologies such as **ASP.NET MVC**, **C#**, **Angular** 2+, and **Entity Framework**, fostering a collaborative and knowledge-sharing environment.
- **Increased test coverage** to 80% by writing **Unit tests**, **integration tests**, and **end-to-end tests**, improving **code quality** and reducing **bugs** by 15%.
- **Implemented JWT Token-based authentication** to secure **ASP.NET Core Web APIs**, providing **role-based authorization** for enhanced system security.
- **Enhanced frontend development** by using **Angular 2**+ to design **responsive** and **interactive UI components**, improving **user experience** for lead, customer, equipment, quote, and vehicle modules.
- **Configured and utilized Amazon S3 Service** for document storage and retrieval in **AWS cloud**, improving **storage** efficiency by 20%.
- **Implemented Single Sign**-**On** (**SSO**) solutions, reducing **login times** and improving **user experience** across all applications.
- **Managed deployment** of the platform in **Windows Azure**, ensuring smooth deployment to **multiple environments**.
- **Built and maintained CI/CD pipelines**, automating **build**, **testing**, and **deployment processes**, reducing **release times** by 30%.
- **Developed** an **interactive map portal** using **.NET Core** and **Angular**, improving **issue visibility** by 26% and enabling faster **response times**.

  Environment: C#.NET, Amazon CloudFront CDN, Amazon S3 (AWS S3), Microservices, Windows Communication Framework (WCF), REST APIs, Code Architecture, ASP.NET Web Forms, Azure DevOps, Node.js, WebPhone, Windows Forms (WinForms), .NET Core, MongoDB, React, Angular, TypeScript, JavaScript, Microsoft SQL Server, ASP.NET, .NET, C#, EDI, NPM

University Hospitals | Shaker Heights, OH | Onsite   **05/2013 – 04/2017**
Software Engineer

 Responsibilities:

- **Leveraged UI expertise** in **AngularJS** to troubleshoot and redesign **user interfaces**, improving **user experience** and leading to a **22% increase** in **user engagement** and **17% improvement** in **user retention**.
- **Rewrote legacy code** from **jQuery** and **CoffeeScript** to **vanilla JavaScript**, improving **maintainability** and reducing **page load times** by 15%.
- **Optimized the data access layer**, reducing its size and improving **data retrieval performance**, resulting in a **13% improvement** in **database load times**.
- **Consolidated** multiple **Business Logic (BL) class libraries** into a single **reusable library**, improving **code maintainability** and reducing duplication by 40%.
- **Implemented real**-**time messaging service** using **SQL** and **ASP.NET**, facilitating seamless communication between users during live sessions.
- **Developed business components** using **C#**, **WCF**, **BizTalk**, and **Entity Framework**, ensuring **robust** and **scalable solutions**.
- **Improved frontend components** by utilizing **AngularJS**, **HTML5**, and **CSS**, leading to a more **intuitive** and **responsive interface** for users.
- **Collaborated with clients** to gather feedback and optimize features based on business needs, improving the **product's overall functionality**.

  Environment: Angular, HTML5, Service-oriented Architecture (SOA), Microsoft SQL Server, Model View Controller (MVC), C#, TFS, Architecture, HTML, Redux, Webpack, .NET, Full-stack, Networks, CI/CD Pipelines, REST APIs,

Responsive Web Design (RWD), Front-end, ASP.NET, Cloud, Solution Architecture, Headless Software, Data Architecture, Data Engineering, APIs, Data, Databases, Integration, BizTalk

EDUCATION:

The Ohio State University   **04 / 2013**
Degree: Bachelor of Science in Computer Science | Columbus, OH, United States
Relevant coursework: Data Structures and Algorithms, Operating Systems, Database Systems, Software Engineering, Computer Networks, Web Development, Computer Architecture

SKILLS:

Languages	C#, T-SQL, XML, HTML5, CSS3, JavaScript, SQL, TypeScript, Python, Visual Basic, VBScript
Frameworks	.NET, .NET Core, ASP.NET MVC, Entity Framework, Kendo UI, AngularJS, Angular, Bootstrap, Redux, NUnit, Unity, WCF, Classic ASP, Knockout.js, OAuth 2, BizTalk, Blazor
Database	SQL Server, Oracle, MySQL, PostgreSQL, Cosmos DB, Cassandra, MongoDB
DevOps Tools	Azure DevOps, Git, GitHub, GitLab CI/CD, TFS, Jenkins, TeamCity, Octopus Deploy, JIRA, Rally, Confluence
Containers & Orchestration:	Docker, Kubernetes
Web & Front-End	ASP.NET, Angular, React, Web API, REST APIs, HTML5, CSS3, JavaScript, TypeScript, Responsive Web Design (RWD)
Testing & QA	Jasmine, NUnit, Unit Testing, Test-driven Development (TDD)
Integration & Messaging	RabbitMQ, Kafka, BizTalk, Azure Service Bus, EDI Transactions
Reporting & BI	SQL Server Reporting Services (SSRS), Microsoft Power BI
Source Control	Git, SourceTree, Subversion (SVN), Visual SourceSafe