

Gaiye “Gail” Zhou, MBA, PhD

LinkedIn: www.linkedin.com/in/gailzhou Email: gail.j.zhou@gmail.com

Principal Software Engineer | Principal Architect

Builder of Scalable, Secure Cloud-Native Solutions | GitHub Publisher | 2 Patents Awarded

Hands-on technology leader with extensive experience in software engineering, enterprise architecture, and cloud strategy and solution delivery. Known for delivering complex, high-impact solutions at scale, on time, with clarity, and a strong user-first mindset.

Deep expertise in infrastructure as code, data platforms, and application development (C/C++, Java, C#, Python, PowerShell, Bicep, Terraform). Trusted for clear documentation, visual thinking, and pragmatic leadership.

Awarded two patents for innovation. Published author on GitHub. Industry-spanning experience across High Tech, Financial Services, Telecom, Government, Healthcare, Retail, and Pharma.

At Microsoft: Led 60+ customer engagements across industries, guiding cloud migrations, expansion, and optimization with a focus on simplicity, automation, and repeatable success.

Solution Lead & Key Contributor to GitHub Repos and Engineering Publication:

- **WAF-Aligned and Sandbox Solution Deployments:** BICEP (GitHub: [ModernizeCodeSA](#)).
- **Solution Pattern Lead:** RFP Agent (GitHub: [Agent-for-RFP-Response-SA](#)).
- **Solution Patten Lead:** Task Management in Sustainability Manager (GitHub: [TaskMgmtSA](#)).
- **Solution Pattern Lead:** Comparative Analysis for Sustainability (GitHub: [CompAnalysisSA](#)).
- **Solution Lead:** Intelligent Field Service Solution Accelerator (Github: [IntelligentFieldServiceSA](#)).
- **Solution Lead and Key Contributor:** Automate PDF Forms Processing ([AutomatePDF](#)).
- **Solution Lead and Key Contributor:** Azure PDF Form Processing Automation Solution Accelerator (GitHub: [AzurePDFAutomationSA](#), YouTube: [Azure PDF Proc Automation](#)).
- **Solution Lead and Key Contributor:** Azure Invoice Process Automation Solution Accelerator (GitHub: [AzureInvoiceProcAutomation](#)).
- **Solution Lead and Key Contributor:** Process and Scripts to automate SQL Server to Azure Synapse Migration ([SQL2Synapse Link](#)) with training videos ([YouTube Link](#)).
- **Solution Lead and Key Contributor:** Azure Synapse Scripts and Accelerators ([SynapseAccelerators](#)).
- **Solution Lead and Key Contributor:** APS to Azure Synapse Migration ([APS2SynapseVersion1](#)) with Python Program ([code here](#)) translating APS code to run in Azure Synapse

CONFERENCES / EVENT SPEAKER / Publications

- 2025: LinkedIn Article: [A Reusable and Deployable Architecture with .NET C# API App and Azure Services | LinkedIn](#) with GitHub Repository: [gailzmicrosoft/SampleDotNetApiApp](#).
- 2024: LinkedIn Article: [Information Processing and Coding in the Age of AI | LinkedIn](#), with GitHub Repository: [gailzmicrosoft/DocxMarkdownConversions](#).
- 2023: Microsoft Customer and Partner Solutions Conference: IoT Telemetry Anomaly Detection in D365 Field Services
- 2022: Microsoft AI/ML Airlift Conference: Azure PDF Processing Automation using AI/ML
- 2021: PASS Summit: SQL Server to Azure Synapse Migration
- 2021: Microsoft GBB Airlift: Business Case Development and Presales Process
- 2021: Microsoft Modern Data Warehousing in the Cloud Digital Event
- 2019: Microsoft Azure Air-Lift Conference Speaker on Azure Synapse Analytics

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EMPLOYMENT HISTORY

Microsoft, Principal Software Engineer / Architect for Azure Infra/App/Data/AI 01/2017-Present

Career Highlights: Better Together Award May 2019, Special Award Dec 2021, Promotion to Principal Architect in 2022, Principal Software Engineer since 2024.

- Principal Software Engineer, Commercial Solutions Aeras CTO Engineering, March 2024 – Present
 - ✓ Infrastructure and Security lead Engineer: BICEP delivering sandbox and WAF-aligned solution architectures (GitHub Repo: [Modernize Your Code Solution Accelerator](#)).
 - ✓ Pattern Lead: Responsible for leading the engineering delivery for sustainability and Copilot Patterns. Promoting engineering best practices and processes that deliver quality solutions with repeatability with clear documentation. (GitHub Repos: [Agent for RFP Response SA](#), [Comparative Analysis for Sustainability SA](#), and [Task Management for Sustainability Manager SA](#))
- Principal Architect, Early Access Engineering Innovation Program, Dec 2021- June 2023, **Promotion to Principal Architect** in 2022
 - ✓ Led the development and publication of Industrial Metaverse Solutions using Microsoft Dynamics 365 connected services & IoT Technologies. Solution is used to remotely monitor and manage IoT Devices. (Github: [IntelligentFieldServiceSA](#)).
 - ✓ Authored and Published Microsoft Engineering Article: [AutomatePDF](#).
 - ✓ Led the development and publication of “Azure PDF Form Processing Automation Solution Accelerator” GitHub: [AzurePDFAutomationSA](#)), (YouTube: [Azure PDF Proc Automation](#))
 - ✓ Led the development and publication of “Azure Invoice Process Automation Solution Accelerator” (GitHub: [AzureInvoiceProcAutomation](#)).
 - ✓ Continued to support previously published solution accelerators, supported services, and created various statement of work (SOWS).
- Lead Architect, Dec 2020 – March 2022, Analytics and AI Accelerate Program, **Special Award**
 - ✓ Advised Customers on target architecture and SMP/MPP/Cloud DW migrations into Azure Synapse Analytics from Teradata, Netezza, Exadata, SQL Server, APS, RedShift, and Google Big Query.
 - ✓ Led the development and publication of SQL Server to Azure Synapse Migration Accelerators ([SQL2Synapse](#)) and YouTube [Data Migration Channel](#).
- Architect, Jan 2017 – December 2020, Azure Synapse Customer Success Engineering Program, **Better Together Award**
 - ✓ Led customer engagements with architecture design, prototyping, and production implementations for migrating on-premises SMP/MPP data platforms to Azure Synapse Analytics. 2 customers became public references: Walgreens ([Case Study Link](#)) and Neogrid.
 - ✓ Guided customers to modernize analytical data architecture with Azure Data Lake, ADF, Azure Databricks, Azure Synapse, Azure Cosmos DB, and Power BI.
 - ✓ Led the development and publication of the APS to Azure Synapse Migration Accelerators ([APS2SynaspeVersion1](#)) which became the go to toolsets for Microsoft, partners, and customers.

Tata Consultancy Services (TCS), Managing Consultant, Sr. Enterprise Architect 2014 – 2016

Career Highlights: Achieved 99–100% customer satisfaction across all projects, many leading to follow-on engagements.

- Cathay United Bank: Defined the enterprise architecture vision, methodology, and 5-year roadmap to support CUB’s business transformation program.
- World Bank Group: Delivered five strategic programs; established integrated data architecture, technology strategy, and standards for the insurance division CIO.

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- Citi Bank: Led a mobile resiliency assessment that laid the foundation for institutionalizing resiliency requirements, patterns, and governance in the SDLC.
- Gilead Sciences: Delivered target information reference architecture, BI patterns, and best practices in collaboration with the BI CoE and data governance council.

Fiserv, Lead Enterprise Information Architect (IT Director)

2010 – 2013

Career Highlights: Received Fiserv’s highest recognition, the Center Stage Award, for delivery excellence. Created a reusable middle-tier platform, Enterprise Transaction Information Management Systems (ETIMS) which enabled new customer products, internal capabilities, and streamlined payment processing.

- Developed transformational enterprise reference architectures and defined technology standards for information management. Founded and led the *Data Governance Committee*.
- Designed logical, physical, and hot-hot high availability architectures for large-scale, real-time payment processing—used in production for fraud detection and prevention.
- Led requirements and architecture for secure mobile payments, merchant offers, and prepaid card solutions.

OTHER EMPLOYMENT HISTORY ABBREVIATED (15 Years)

1994 – 2009

- **Bank of America, SVP, Lead Business Architect & Strategist**

2007-2009

Career Highlights: Three spirit medallion awards, one patent filed, and gold level volunteer. Named by YWCA as one of the Women of Achievement from Bank of America (May 2008).

- **COX Enterprise (Manheim), Principal Consultant, BI Architect**

2004 - 2006

Career Highlights: Started a new product for inventory optimization (POINT) which was later acquired by General Motors from Manheim.

- **NTT Data Americas, Chief Architect, Program Manager**

2001 - 2004

Career Highlights: Promotion to corporate architect and member of architecture leadership council. Led large programs (\$5-140M) and delivered quality systems within budget and timeline.

- **AT&T Architect to Director of Enterprise Architecture & Other Roles**

1994 - 2001

Career Highlights: Seven progressive promotions. I started as Sr. Software Engineer, other positions include as Software Architect, Program Architect, Project Lead, eCommerce Acting Director, Technology Strategist, Director of Enterprise Application and Data Architecture.

MISCELLANEOUS

- U.S. Citizen, Bilingual (English and Chinese)
- Three U.S. patents in the areas of wireless applications, smart messaging and logging, and systems resiliency. 2 awarded (7,139,722 & 6,925,586)

EDUCATION

- MBA, Executive Management and Finance, Kennesaw State University (Employer AT&T Sponsored Program 1997-1999)
- PhD, Electrical and Computer Engineering, University of Tennessee