

BRETT E. JOHNSON

Senior Cloud Architect | Serverless & AI-Enabled Systems for the IC/DoD

Security+ | AWS Solutions Architect

TS/SCI Clearance • CI Polygraph • (ACTIVE)

PROFESSIONAL SUMMARY

Cloud software architect with 15+ years designing and delivering mission-critical applications for the Intelligence Community, DoD, and commercial sectors, and 25+ years of overall development experience. Currently architecting AI-enabled, cloud-native applications on AWS serverless infrastructure (Lambda, DynamoDB, S3, AWS SAM, CDK, CloudFormation, WAF, API Gateway) supporting federal acquisition and contracting intelligence workflows. Deep fluency in IC/DoD compliance frameworks (RMF, FedRAMP, STIGs, ATO, DoD 8140) paired with hands-on full-stack delivery across Angular/TypeScript frontends and serverless C#.NET and Python backends.

CORE COMPETENCIES

- **Cloud & Serverless (AWS)** Lambda, Step Functions (Distributed Map), API Gateway, EventBridge Scheduler, DynamoDB (incl. Streams, GSIs, single- and multi-table design), S3, CloudFront (incl. Origin Access Control), SQS, SNS, Cognito, WAFv2, KMS, STS, Secrets Manager, Systems Manager (SSM), Amazon Textract, ALB, EC2 (incl. GPU/ASG autoscaling), SAM, CloudFormation (nested stacks), AWS CDK (C#), multi-partition deployment (commercial, GovCloud, air-gapped ISO)
- **AI-Enabled Development** Amazon Bedrock (Claude, OpenAI GPT models, Llama, Gemma, Nemotron, GPT-OSS via cross-region inference profiles), OpenAI API, self-hosted open-weight model serving (Ollama); provider-neutral LLM abstraction layers with declarative model catalogs; multi-step LLM pipeline orchestration; prompt engineering and structured-output resilience (JSON repair, self-consistency sampling); hallucination guardrails and citation/evidence-grounding validation; per-invocation AI cost/token telemetry; model evaluation sweeps and DPO preference-dataset fine-tuning pipelines; AI-assisted engineering workflows using Claude Code (context files, custom skills, plan-to-ticket automation)
- **Frontend** Angular (4 → current), TypeScript, RxJS, HTML5, JavaScript, jQuery, CloudScape
- **Backend** C#.NET, .NET Core, ASP.NET REST/SOAP APIs, Entity Framework, Python, Node/npm
- **DevOps & Scripting** PowerShell (primary automation language — multi-environment deployment, infrastructure orchestration, AD auditing, SSM port-forwarding, log analysis), Docker, Git, GitLab CI (multi-stage pipelines with SCA/secrets/SAST/IaC security gates: osv-scanner, gitleaks, semgrep, cfn-lint, cdk-nag)
- **Security & Compliance** RMF, FedRAMP, STIGs, ATO packages, DoD 8140 workforce framework, PKI enablement and mutual-TLS client-certificate authentication, least-privilege IAM as testable/unit-tested code, per-tenant KMS-scoped secret isolation, Tenable Nessus vulnerability scanning, Splunk SIEM (IIS log ingestion, SPL queries), Active Directory security auditing, LDAP certificate inspection
- **Testing & Quality** xUnit, Playwright end-to-end and accessibility (axe) testing, Angular unit testing, infrastructure-as-code test assertions (CDK Template.FromStack)
- **Database** DynamoDB, SQL Server (incl. CLR-to-T-SQL migration), MySQL, Oracle, MS Access
- **Monitoring & Infrastructure** Nagios (UPS/PDU power-outage detection), AWS SSM Fleet Manager, CloudWatch structured logging and alarms, IIS administration, VMware/Hyper-V
- **Government/Domain APIs** SAM.gov, USASpending.gov, data.gov, NGA GEOINT

PROFESSIONAL EXPERIENCE

Falcon Logic | *Chief Software Architect*

July 2009 – Present

Customers: NRO, DNI, NGA, DIA, NSA

Government contracting and software development firm supporting IC and DoD customers. Lead architect for AI-enabled, cloud-native serverless applications supporting federal acquisition intelligence and proposal-evaluation workloads, in addition to core IC program delivery.

AI-Enabled Serverless SaaS Platforms Architecting and running two production-grade, multi-tenant federal SaaS platforms end-to-end — one for contract-opportunity intelligence, one for AI-driven structured document evaluation — on .NET/Angular serverless stacks (Lambda, Step Functions, DynamoDB, CloudFormation/CDK).

- Built provider-neutral LLM abstraction layers over Amazon Bedrock, OpenAI, and self-hosted open-weight models, driven by declarative model catalogs governing routing, cost, and per-workload eligibility across synopsis generation, scoring, RAG, and chained document-drafting workflows
- Engineered event-driven and Step Functions–orchestrated pipelines (DynamoDB Streams/SQS fan-out, Distributed Map, self-consistency sampling) with hallucination-guardrail evidence-grounding to keep AI output reliable at scale
- Delivered defense-in-depth security: per-tenant KMS-gated credential isolation, least-privilege IAM as unit-tested code, Cognito/TOTP MFA and mutual-TLS authentication, and multi-partition deployment into GovCloud and air-gapped environments
- Built GPU cost controls and a model-evaluation/fine-tuning pipeline (automated sweeps, DPO dataset generation) for self-hosted inference workloads
- Instituted CI quality/security gates (thousands of unit and end-to-end tests, dependency/secret/SAST/IaC scanning) with scripted multi-environment deployment automation
- .NET console-based local analyzer for resilience when live API access is unavailable

Chief Architect and Lead Software Developer, NRO (IC Program)

- Led a lean 3-person team through a full re-architecture from a legacy ColdFusion/Oracle platform to ASP.NET/SQL Server, PKI-enabling the application as one of the first to meet the Presidential IC PKI-enablement directive
- Led the migration from V2 of the application to V3, preserving core business logic while building an Angular/.NET REST API stack
- Stood up and ran Subversion/Jenkins and GitLab-based version control/CI-CD in AWS infrastructure

Chief Architect and Lead Software Developer, ODNI (IC Program)

Led the development of IC-eSRS, a highside subcontract reporting tool; integrated with NSA and NRO contractor business registries

Lead Developer, Offline/Cached Mobile Mapping Application — NSA

Delivered a cross-platform HTML5 mobile mapping prototype with shared-map annotation, freehand canvas drawing, and REST/Ajax-based offline data synchronization from vision to deployment in 3 months; application received a follow-on BAA award for further enhancement

Previous Roles (Pre-2009)

Lead Software Developer, Restaurant Big Data Initiative — GuestMetrics

First-of-its-kind platform aggregating on-premise food and beverage consumption data at scale, with databases scaling to billions of records

Principal Software Developer — Presidential Campaigns (incl. Obama Campaign)

Built donation-processing systems enabling enhanced throughput and improved compliance for Democratic presidential campaigns

EDUCATION, CERTIFICATIONS, & CLEARANCES

Bachelor of Arts, English - University of Virginia

Security + | AWS Solutions Architect | MS Azure Fundamentals | FSO Training

Top Secret / SCI with CI Polygraph — ACTIVE | NRO Adjudicated – CI Poly Dec 2024