

JOSEPH C. DILLARD

Enterprise GIS Architect | Cloud Solution Architect | Full-Stack GIS Developer

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PROFESSIONAL SUMMARY

Enterprise GIS Architect, cloud/hybrid solution architect, and full-stack GIS developer with 25+ years of geospatial experience, 20+ years designing and operating Enterprise GIS platforms, and 9+ years of Java/GIS web development. Deep background in ArcGIS Enterprise, ArcGIS Server, Portal for ArcGIS, ArcGIS Pro, ArcSDE, enterprise geodatabases, PostgreSQL/PostGIS, Oracle Spatial, data integration, mission systems, utility GIS, and high-availability geospatial services. Azure Solutions Architect Expert with AZ-305 and AZ-104 credentials, Security+ CE, AWS, and hands-on experience across Windows, Linux, virtualized, containerized, and hybrid infrastructure. Able to work from ambiguous stakeholder needs through architecture, data modeling, APIs, application delivery, testing, training, rollout, and production support. GeoAI/AI exposure includes Microsoft AI Skills Fest, Azure AI learning, AI-assisted development, Python/GeoPandas geospatial processing, and raster/vector analytics for geospatial automation, analysis, and decision-support use cases.

TARGET ROLE POSITIONING

Best-Fit Roles	Differentiators
<ul style="list-style-type: none">Enterprise GIS / ArcGIS Enterprise architecture for defense, utility, and enterprise customersOpen Source Enterprise GIS architecture with GeoServer, PostGIS, QGIS, and open-source GIS server evaluationCloud and hybrid infrastructure design with strong Azure certification foundation and AWS working knowledgeFull-stack GIS application delivery across backend APIs, web applications, spatial services, and databasesSpatial database, data pipeline, geospatial ETL, and data readiness leadership	<ul style="list-style-type: none">Utility GIS, ArcGIS Utility Network, mobile GIS workflows, field usability, testing, and customer enablementMission systems, situational awareness, common operating picture, dashboards, maps, and operational workflowsCustomer discovery, requirements shaping, MVP planning, release coordination, mentoring, and low-ego team executionGeoAI-aware architect/developer with enough AI exposure to identify use cases, prototype, and collaborate with ML specialists

TECHNICAL SKILLS / KEYWORD MATRIX

Enterprise GIS / Esri	ArcGIS Enterprise, ArcGIS Server, Portal for ArcGIS, ArcGIS Pro, ArcSDE, ArcGIS Desktop, ArcGIS Online, ArcGIS JS API, ArcGIS GeoEvent Server, Utility Network, enterprise geodatabases, feature services, map services, dashboards, mobile GIS, common operating picture, situational awareness
Open Source Enterprise GIS	Open Source Enterprise GIS Architecture, GeoServer, QGIS, PostGIS, GeoPandas, GeoJSON, open-source GIS server evaluation, GeoServer-based service architecture, geospatial data processing, raster/vector concepts, spatial analytics, coordinate/reference data workflows
Cloud / Infrastructure	Microsoft Azure, Azure architecture, Azure administration, Azure networking/compute/storage/governance concepts, AWS working knowledge, Docker, Windows Server, Linux/Unix, VMware vSphere, Hyper-V, Apache Tomcat, enterprise hosting, capacity planning, high availability, hybrid infrastructure
Data / Spatial Databases	PostgreSQL/PostGIS, Oracle Database 11g/12c/21c, Oracle Spatial, MySQL, SQL, PL/SQL, ArcSDE administration, schemas, domains, subtypes, data readiness, data quality, GeoJSON, CSV/Excel workflows, imagery data, NGA/commercial imagery, ERDAS IMAGINE
Development / APIs	Java, JavaScript, TypeScript, Angular, TypeScript/Angular, Python, C#, Node.js, Spring Boot, Spring Security, Grails, Hibernate/GORM, REST APIs, SOAP APIs, HTML/CSS, PrimeNG, Maven, Gradle, Git/GitHub, IntelliJ IDEA, Eclipse IDE, Visual Studio Code, Codex / AI-assisted development
Integration / ETL / Automation	Apache NiFi, Apache Kafka, ArcGIS GeoEvent Server, geospatial ETL, event-driven GIS patterns, GeoJSON-to-Oracle Spatial pipelines, API integration, data ingestion, automation scripts, service/data validation, repeatable ingest workflows, pipeline testing
Delivery / Security / Quality	Agile/Scrum, Jira, Confluence, UML, Lucidchart, requirements discovery, MVP delivery, architecture tradeoffs, CI/CD concepts, JMeter, Xcode Instruments, training, testing, production readiness, operational handoff, RMF/security-aware environments, Security+ CE, DoD 8570-aligned environments
GeoAI / AI Exposure	Microsoft AI Skills Fest, Azure AI learning, AI-assisted development workflows, GeoAI/ML concepts, Python/GeoPandas geospatial analytics, raster/vector ML awareness, data preparation for analytics/ML. Strong Remote Sensing background.

CERTIFICATIONS

Microsoft Certified: Azure Solutions Architect Expert | AZ-305 - Designing Microsoft Azure Infrastructure Solutions | AZ-104 - Azure Administrator Associate | CompTIA Security+ CE - current DoD 8570-aligned certification

PROFESSIONAL EXPERIENCE

TRC Companies - Lemur Team	Sept 2023 - Mar 2026
GIS Solutions Architect / Enterprise GIS Consultant	Remote / Utility Customers
<ul style="list-style-type: none">Consulted with electric utility customers to assess Enterprise GIS readiness for Lemur mobile GIS workflows, focusing on ArcGIS Enterprise service reliability, data architecture, field usability, and operational fit.Worked across ArcGIS Pro, ArcGIS Server, PostgreSQL/PostGIS, ArcGIS Utility Network, and the Lemur GIS application to support enterprise GIS integration, service consumption, and mobile application workflows.	

- Reviewed customer Enterprise GIS configurations, service dependencies, database/service readiness, data behavior, and performance constraints before production-oriented mobile workflow deployments.
- Partnered with GIS architects, developers, customer technical teams, and application stakeholders to troubleshoot service, data, workflow, and performance issues affecting deployment readiness.
- Supported training and customer enablement by explaining application workflows, GIS service dependencies, testing procedures, operational handoff needs, and production support considerations.
- Participated in application, service, and workflow testing to validate functionality, performance, data behavior, mobile usability, and customer readiness for enterprise utility GIS operations.

L3Harris Technologies

Scientist, System Engineer - GIS Solutions Architect

Aug 2021 - Aug 2023

Greenville, TX

- Designed and configured commercial and open-source GIS server systems, including GeoServer-oriented architecture evaluation, for internal research and development initiatives supporting defense-oriented geospatial and signal intelligence environments.
- Led use-case and requirements discovery for commercial and internal GIS systems under development, aligning system architecture with mission needs, stakeholder priorities, data availability, and integration constraints.
- Researched, tested, and evaluated GIS server software for use in signal intelligence system environments, balancing capability, integration fit, operational constraints, security considerations, and production readiness.
- Coordinated acquisition of GIS datasets from DoD agencies and supported integration into enterprise geospatial systems requiring reliable ingest, transformation, data management, and service delivery.
- Built automated geospatial data pipelines using Apache NiFi and GeoPandas to convert GeoJSON into Oracle Spatial, reducing manual ingest effort and improving repeatability of data acquisition workflows.
- Applied Enterprise GIS architecture judgment across GeoServer, open-source Enterprise GIS Architecture, Esri-oriented systems, Oracle Spatial, data pipelines, and mission-focused operational environments.

CACI International Inc. / U.S. Forces Korea

GIS System Architect - GIS Developer

Jan 2013 - May 2021

Korea

- Architected and led development of an ArcGIS-based situational awareness/common operating picture platform used by Pacific Air Forces and U.S. Forces Korea for mission planning, operational awareness, exercises, simulations, and planning conferences.
- Designed system architecture from inception through four major revisions over eight years, including infrastructure, ArcGIS services, enterprise geodatabases, application patterns, performance strategy, release planning, and support model.
- Supported more than 50 custom applications, map views, and dashboards that combined commander-reported data across echelons into operational products for faster analysis and decision-making.
- Delivered hands-on GIS web development and platform integration using ArcGIS Server/Portal, ArcGIS JS API, Java, JavaScript, TypeScript/Angular, Grails, REST/SOAP services, Oracle/ArcSDE data, and related enterprise application patterns.
- Led two major architecture and application releases each year, coordinating requirements, development priorities, testing, deployment readiness, training needs, stakeholder communication, and operational support.
- Translated ambiguous product owner and mission stakeholder needs into practical requirements, workflows, MVP-based delivery plans, sprint priorities, data models, dashboards, and deployable capabilities.
- Provided technical direction and mentoring for system administrators, web developers, GIS administrators, and database-focused team members maintaining ArcGIS services, Oracle data, and custom applications.
- Selected server and network hardware to ensure compatibility, performance, availability, capacity, and growth planning across enterprise mission environments.
- Maintained zero downtime due to technical failure during major use events with up to 2,900 unique users and observed load up to 20,000 ArcGIS Server requests per minute.
- Worked directly with military customers, commanders, staff stakeholders, and operational users to keep map-based products, dashboards, and decision-support workflows aligned with mission requirements.

CACI International Inc.

Senior GIS Analyst - GIS System Administrator

Feb 2004 - Jan 2013

Osan Air Base, Korea

- Administered ArcGIS Server, ArcIMS/IMF, and ArcSDE Oracle database servers across multiple enterprise networks supporting Air Force and U.S. Forces Korea geospatial operations.
- Led architecture changes to system hardware and software configurations and delivered 24/7 technical support for Enterprise GIS operations with exercise, contingency, and mission-support requirements.
- Maintained and disseminated geospatial data in support of Air Force Enterprise GIS Architecture and expeditionary GeoReach requirements, keeping operational users supplied with current geospatial information.
- Managed Windows Server and VMware vSphere virtual machines supporting GIS services, application hosting, database connectivity, operational support, and enterprise system availability.
- Performed commercial and NGA imagery processing using ERDAS IMAGINE and provided limited Trimble survey support for operational and data maintenance requirements.
- Supported ArcGIS services, Oracle spatial data, networked GIS environments, data publication, troubleshooting, user support, and operational exercise readiness across multiple networks.

U.S. Army

Production Manager and GEOINT Analyst

Apr 2000 - Feb 2004

U.S. Army

- Managed mission-critical GIS-driven product development, map production, topographic operations, quality assurance, imagery support, and geospatial information delivery for operational missions.
- Supervised personnel, provided technical guidance, authored standard operating procedures, and trained users on imagery and GIS equipment.

- Produced more than 375 GIS and map-based documents while improving team productivity, collaboration, training capability, and access to critical geospatial information.
- Applied imagery analysis, terrain analysis, cartographic production, database management, quality assurance, and operational support practices in high-tempo mission environments.

SELECTED ARCHITECTURE, DEVELOPMENT, AND DELIVERY HIGHLIGHTS

- Enterprise GIS platform architecture: Designed, modernized, and operated ArcGIS-based and open-source GIS platforms that integrated infrastructure, GIS services, databases, custom applications, dashboards, maps, and support processes.
- Full-stack GIS delivery: Able to move between requirements, data modeling, backend/API design, TypeScript/Angular front-end GIS application behavior, service integration, testing, deployment, and production troubleshooting.
- High-load operational reliability: Planned capacity and service resilience for major use events and sustained mission periods where outages would affect staff workflows and decision timelines.
- Geospatial data integration: Built repeatable ingestion patterns across GeoJSON, Oracle Spatial, PostGIS, ArcGIS services, Apache NiFi, Apache Kafka, ArcGIS GeoEvent Server, GeoPandas, APIs, and automated pipeline tooling.
- Open-source Enterprise GIS architecture: Evaluated and configured GeoServer/open-source GIS server patterns alongside Esri architecture for mission and research environments.
- Utility/mobile GIS readiness: Assessed ArcGIS Enterprise services, Utility Network data, PostGIS environments, mobile consumption patterns, testing procedures, and customer workflow fit for field applications.
- Cloud and hybrid architecture: Combines certified Azure architecture/admin knowledge, AWS working knowledge, virtualization, containerization, Windows/Linux server administration, and Enterprise GIS hosting experience.
- GeoAI-aware engineering: Comfortable identifying practical GeoAI/AI use cases, preparing geospatial data for analytics, using AI-assisted development, and collaborating with ML/data specialists while keeping implementation grounded in proven GIS architecture and development practices.
- Customer/stakeholder translation: Regularly converted vague operational goals into technical scope, workflow designs, MVPs, service patterns, training, and deployable software or GIS service capabilities.

EDUCATION AND PROFESSIONAL DEVELOPMENT

- Microsoft AI Skills Fest - Jun 2026
- Esri Developer Summit - Palm Springs, CA - Mar 2018
- Western Governors University - Web Development coursework - 2012-2013
- National Geospatial-Intelligence College - Geographic Information Sciences - 2000
- U.S. Army Veteran; GEOINT, imagery, terrain analysis, cartography, map production, QA, and operational geospatial support background

SELECTED PUBLIC REFERENCE

Portfolio / GitHub Pages: josephdillard.github.io/JosephDillard

GeoBase Mission Command System article: dvidshub.net/news/195988/pacaf-utilizes-geobase-program

ATS KEYWORD INDEX

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