

# Paul Prae

Principal AI Engineer & Solutions Architect | Buford, GA | hireme@paulprae.com | [linkedin.com/in/paulprae](https://www.linkedin.com/in/paulprae) | [paulprae.com](https://paulprae.com)

## PROFESSIONAL SUMMARY

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Principal AI Engineer and Architect with 15 years of experience delivering enterprise AI, machine learning, and data platform solutions across healthcare, life sciences, and financial services. Proven track record at Amazon Web Services, Microsoft, Booz Allen Hamilton, and Slalom Consulting serving Fortune 500 clients including Cox Enterprises, Equifax, and BlueCross BlueShield. Currently architecting HIPAA-compliant AI agents and petabyte-scale healthcare data platforms serving 50M+ health plan members. Combines deep expertise in cloud infrastructure, generative AI, and multi-agent systems with healthcare domain knowledge, responsible AI governance, and engineering team leadership.

## PROFESSIONAL EXPERIENCE

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### Staff AI DataOps Engineer

Arine | Remote | Sep 2025 – Present

- Designed and maintained the AI DataOps Toolkit – an agentic development framework and interactive knowledge base – equipping a data services organization supporting 45+ health plans and 50M+ members with AI development tools, governance standards, and reference architectures.
- Developed HIPAA-compliant AI coding assistants that transformed data operations into an AI-augmented practice, including a Data Engineering Agent that autonomously generated, deployed, and tested ETL pipelines and a Dev Environment Setup Agent that eliminated multi-day onboarding delays.
- Led AI enablement workshops training up to 100 engineers on AI-first software development with Cursor AI, Claude Code, and GitHub Copilot, accelerating organization-wide generative AI adoption.
- Built an observability pipeline monitoring Arine's autonomous pharmacist AI agent – ingesting production behavior data from DynamoDB into Snowflake, transforming with dbt, and visualizing performance metrics in QuickSight dashboards.
- Managed the enterprise data platform on Snowflake and AWS, processing petabytes of healthcare data from hundreds of heterogeneous sources to support downstream ML systems core to clinical decision support products.

### Chief AI Architect, Senior Manager

Booz Allen Hamilton | Atlanta, GA | Jul 2024 – Mar 2025

- Led development and operationalization of AI and analytics solutions enabling healthcare and life science clients to harness clinical, behavioral, and genomic data for population health and predictive medicine.
- Designed and deployed AI software products for regulated healthcare environments, mitigating risks including algorithmic bias and privacy breaches while meeting clinical and regulatory requirements.
- Advised cross-functional teams on AI strategy, translating rapidly evolving clinical, regulatory, and technological needs into production-ready solutions driving measurable client outcomes.

### Neuroinformatics Data Platform Architect

TRENDS Center | Atlanta, GA | Jan 2022 – Sep 2023

- Served as tech lead and architect for COINSTAC, an open-source federated analysis platform processing neuroimaging and genomics data with differential privacy algorithms ensuring PHI protection across distributed research institutions.
- Architected AWS cloud infrastructure including GPU-focused deep learning compute; co-authored a peer-reviewed publication in *Frontiers in Neuroinformatics* demonstrating federated analysis capabilities.
- Drove platform commercialization through SBIR grant writing, open-source contributor recruitment, and industry partnerships while leading Agile ceremonies as Scrum master.

### Chief AI Officer, Founder

Hyperbloom | United States | Jan 2020 – Sep 2025

- Founded and scaled an AI consulting practice to \$1.4M ARR from a \$40K investment, delivering cloud-based AI and data solutions to healthcare, life science, and financial services clients.
- Architected disaster recovery solutions for clinical trial software supporting 10,000+ research sites across 45 countries processing 5.5M monthly remote monitoring activities.
- Designed HIPAA/GDPR-compliant data platforms including a genomics data lake on AWS (S3, Glue, CloudWatch) and a blockchain-based life science data exchange system meeting CCPA, FAIR, and HL7 standards.

### Enterprise AI & ML Solutions Architect

Amazon Web Services | Atlanta, GA | Aug 2018 – May 2021

- Architected and integrated AI/ML solutions on AWS for Fortune 500 customers including Cox Enterprises, Equifax, NCR, Accenture, and Deloitte, providing prescriptive guidance on secure, scalable, and performant application design.

- Engaged nationally as a subject matter expert in AI and machine learning, authoring technical white papers, reference architectures, and proof-of-concept implementations using SageMaker, Lex, and Comprehend.
- Built executive relationships driving AWS adoption and revenue while acting as technical liaison between customers and AWS service teams to deliver customer-driven product improvements.

### **Advanced Analytics Consultant**

**Slalom Consulting** | Atlanta, GA | Jul 2015 – Jan 2018

- Delivered a behavioral healthcare application generating \$2M+ in revenue, enabling nurses across dozens of Georgia facilities to collect and visualize patient care data using C#, Azure, Power BI, and XAML.
- Recognized nationally as a subject matter expert in NLP and machine learning; operationalized data science experiments from isolated environments to cloud-based production systems on Microsoft Azure.

### **Senior Support Engineer**

**Microsoft** | Charlotte, NC | Jul 2012 – Mar 2014

- Delivered advanced technical troubleshooting for Fortune 100 customers (Chevron, Walmart, Disney, BlueCross BlueShield) across SharePoint environments supporting tens of thousands of users.
- Automated deployment and testing workflows using PowerShell and C#; nominated for Global Business Support's "Entrepreneur of the Year" (2013).

## **EDUCATION**

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### **Bachelor of Science & Bachelor of Arts**

**The University of Georgia** | 2008 – 2012 BS, Computer Science (AI Emphasis) | BA, Cognitive Science (AI Foundation) | Graduated Cum Laude

## **TECHNICAL SKILLS**

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**AI & Machine Learning:** Generative AI, Large Language Models (LLMs), Multi-Agent Systems, Natural Language Processing, Deep Learning, MLOps, Prompt Engineering, Predictive Analytics, Conversational AI **Cloud & Infrastructure:** AWS (Bedrock, SageMaker, ECS/EKS, Lambda, S3, Glue, QuickSight, DynamoDB, Step Functions), Microsoft Azure, Snowflake, Docker, Distributed Systems **Data Engineering:** ETL/ELT Pipelines, dbt, CDC, PostgreSQL, Neo4j, Apache Kafka, Data Lakes, Data Warehousing, Data Governance, HIPAA/GDPR Compliance **Programming Languages:** Python, SQL, JavaScript/TypeScript, C#, Bash, Java, Rust **AI Tools & Frameworks:** Cursor AI, Claude Code, GitHub Copilot, LangChain, Ollama, n8n, Open WebUI, MCP Tools **Leadership & Strategy:** AI Strategy & Governance, Engineering Team Management, Solutions Architecture, Agile/Scrum, Technical Pre-Sales, Executive Stakeholder Communication

## **CERTIFICATIONS**

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- **AWS Certified Machine Learning Engineer** – Amazon Web Services (Sep 2025)
- **AWS Certified AI Practitioner** – Amazon Web Services (Sep 2025)
- **AWS Certified Machine Learning – Specialty** – Amazon Web Services (Jan 2020)
- **AWS Certified Solutions Architect** – Amazon Web Services (Jul 2018)

## **PROJECTS**

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### **Open-Source AI Agent Platform | Modular Earth (Founder)**

Architecting local-first, privacy-preserving AI agents using Ollama, LangChain, n8n, Neo4j, and Tauri (Rust/TypeScript). Building multi-agent workflows for career strategy and financial planning, designed for zero-cost public deployment in local libraries.

## **PUBLICATIONS**

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- **Enhancing Collaborative Neuroimaging Research: Introducing COINSTAC Vaults for Federated Analysis and Reproducibility** – *Frontiers in Neuroinformatics* (Jun 2023): Co-authored peer-reviewed paper demonstrating federated analysis capabilities that improve reproducibility and increase sample sizes in neuroimaging studies without requiring data sharing.