

PAIGE JULIANNE SULLIVAN

Full-Stack Polymath • Cloud Architect • AI Engineer • Language Designer

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Available for Part-Time, Contract, and Consulting Engagements • Remote

EXECUTIVE SUMMARY

Polymath technologist with 30+ years solving complex problems across every layer of the stack—from designing domain-specific languages and graph engines to deploying containerized microservices on GCP. Four-time startup founder currently building Topology.Cloud, a comprehensive building infrastructure management platform featuring a custom formula language, real-time WebSocket collaboration, and 9,500+ component definitions. Equally comfortable writing PHP extensions in C, training local LLMs, or leading teams at IBM and Cisco. **Known for rapidly mastering any technology and delivering elegant solutions to problems others consider impossible.**

TECHNICAL ARSENAL

Languages	Go, PHP, Python, JavaScript, TypeScript, Node.js, C/C++, Bash, SQL, HTML/CSS
Frameworks	React, Vue, Laravel, Symfony, Zend, jQuery, Tailwind CSS, WebAssembly (WASM)
Cloud & DevOps	GCP (Cloud Run, Cloud SQL, Memorystore), AWS, Azure, Docker, Terraform, CI/CD, GitHub Actions
AI & ML	Claude API, Google Gemini, Local LLM deployment & training, Prompt engineering, AI integration
Databases	MongoDB, PostgreSQL, MySQL, MariaDB, Redis, MS SQL Server
Specializations	DSL Design, Graph Engines, Real-time WebSocket, Compiler/Parser Design, System Architecture

PROFESSIONAL EXPERIENCE

Topology.Cloud (Founder) | Nov 2025 – Present

Founder / Chief Architect

Designing and building a comprehensive Building Infrastructure Management Platform from scratch—a digital twin system for modeling electrical, plumbing, HVAC, networking, A/V, security, and fire protection systems using directed acyclic graph architecture.

- ▶ Architected complete platform: Go backend (Graph/Formula/Validation engines), React + WebAssembly frontends, MongoDB/PostgreSQL/Redis data layer
- ▶ Designed Topology Formula Language (TFL)—a custom DSL with lexer, parser, and AST for building code compliance validation (NEC, IBC, IPC)
- ▶ Built real-time collaboration system using binary WebSocket protocol with presence awareness and conflict resolution
- ▶ Created Component Modeling Language (CML) with 9,500+ XML-based component definitions across 7 building trades
- ▶ Deployed on GCP using Cloud Run, Terraform IaC, Cloud CDN, and automated CI/CD pipeline with zero-downtime deployments

Johns Hopkins University, Bloomberg School of Public Health | Aug 2020 – May 2025

Programmer Analyst — Major Extremity Trauma Research Consortium

Sole technical owner of mission-critical infrastructure supporting **40+ clinical trials, 1,800 users, and 150,000+ participants** for the nation's largest orthopedic trauma research consortium.

- ▶ Architected complete stack (RHEL, Apache, PHP, MariaDB) with disaster recovery—full restore from bare metal in <15 minutes
- ▶ Developed 7 open-source REDCap modules adopted internationally; built conversational SMS and custom browser extensions
- ▶ Selected for Johns Hopkins Academy for Women and Leadership (Carey Business School, 2025)

Target PharmaSolutions (now Target RWE) | Aug 2019 – Aug 2020

Senior Software Engineer

- ▶ Led REDCap platform for Phase IV clinical trials; designed AWS dashboard reducing deployment from 60+ min to <5 min

IBM Corporation, z Series Division | Jan 2019 – Aug 2019

Senior Software Engineer

- ▶ Developed TypeScript VSCode extensions for mainframe COBOL development; ported to Theia web IDE with z/OS deployment

Boolean Informatics (Founder) | Oct 2014 – Jan 2019

Independent Software Engineer

- ▶ Delivered 50+ applications: cross-platform mobile with GPS tracking, Alexa voice integration, enterprise PXE-boot solutions

Concert Telecommunications (Founder) | Jan 2008 – Oct 2014

Founder / Lead Engineer

Built a complete hosted VoIP phone system from scratch—every line of code, every server, every customer deployment.

- ▶ Architected multi-datacenter infrastructure (3 US regions) achieving 99.999% uptime; full stack in PHP/Python/C++

TheraSim | 2010 – 2012

Senior Software Engineer / Lead Architect

- ▶ Led rearchitecture to MVC; designed DSL for medical case authoring; built offline LiveCD for internet-limited regions

Cisco Systems | 2009 – 2010

Senior Software Engineer

- ▶ Developed VMware management tools, Cisco IOS config library, and enterprise data warehouse for cross-service analytics

IBM Corporation, BladeCenter Division | 2004 – 2008

Advisory Software Engineer — Technical Lead

Technical lead for BladeCenter Advanced Management Module—embedded firmware on custom real-time Linux.

- ▶ Rewrote firmware from C/Nucleus RTOS to PHP/Apache; developed C extension for hardware bus communication (I2C, SMBus, IPMI)
- ▶ Created OEM white-label toolkit; directed team of 5; introduced CI/CD for firmware testing

EARLIER CAREER

Boolean Systems (Founder) | 2001 – 2004

Founder / CEO

- ▶ Developed just-in-time (JIT) manufacturing simulator for industrial process optimization

HiddenMind Technology | 2000 – 2001

Lead Web Developer

- ▶ Lead developer of company's Internet, Intranet, and Extranet systems; enterprise web architecture

MCI/Worldcom | 2000

Lead Web Developer

- ▶ Lead developer for enterprise-wide health monitoring and outage notification system; secondary work on 811 geolocation system

Summus Limited | 1999 – 2000

Web Developer

- ▶ Implemented online ordering system and automated serial number generation for commercial software products

AT&T, Human Resources Information Systems | 1999

Lead Web Developer / Usability Lab Assistant

- ▶ Lead developer of the AT&T Retiree Intranet system; conducted usability testing and user experience research

Dynamic Designs (Founder) | 1995 – 1998

Founder / CEO

Founded first company at age 16, building over 100 websites during the dawn of the commercial Internet.

- ▶ Created viral virtual greeting card website with significant organic traffic
- ▶ Developed web-based helpdesk/ticketing system—an early SaaS product before the term existed

EDUCATION & CREDENTIALS

Academy for Women and Leadership — Johns Hopkins Carey Business School (2025)

NC A&T State University — Computer Science (1998–1999); promoted to Assistant Webmaster within 2 months of enrollment

LEADERSHIP & ADVOCACY

Staff Assembly Representative — JHU Bloomberg School of Public Health (2022, 2024); Employee Relations & Compensation Subcommittee

Research Staff Advisory Committee Member — Johns Hopkins University (2024)

Published Author — Op-ed in INDY Week (April 2025)

Guest Speaker — NC State University, Meredith College, UNC-Chapel Hill, Duke University, Johns Hopkins University (2006 –Present)