**A black background with blue letters

AI-generated content may be incorrect.**

**CASEY CESSNUM**

### **PROFESSIONAL SUMMARY**

A technological polyglot and factotum with 20+ years of experience in software engineering, cloud architecture, security, and leadership. Adept at leading AWS migrations, cloud-native architectures, and AI-driven automation. Expertise spans insurance, SaaS, education, security, healthcare, and telecommunications. Proven track record in microservices, DevOps, AI/ML, and high-performance distributed systems. Passionate about mentorship, technical leadership, and solving complex challenges at scale.

### **TECHNICAL SKILLS**

* Languages: Python, C++, Java, C#, Go, JavaScript, TypeScript, Ruby, PHP
* Cloud & DevOps: AWS (Lambda, API Gateway, EKS, ECS, S3, RDS, IAM, CloudWatch), Azure, Kubernetes, Terraform, CloudFormation, Docker, CI/CD (GitHub Actions, Jenkins, GitLab CI/CD)
* Security & Compliance: IAM, TLS/SSL, Encryption, FedRAMP, PCI DSS, NIST Compliance, Okta, Cognito
* Data & Observability: PostgreSQL, MySQL, SQL Server, NoSQL (DynamoDB, MongoDB), Redis, Kafka, ActiveMQ, Prometheus, OpenTelemetry
* AI & Machine Learning: Generative AI (ChatGPT, OpenAI, AssemblyAI), Model Context Protocol (MCP), Retrieval-Augmented Generation (RAG), Agentic AI
* Enterprise Networking: VPC Design, DNS, Load Balancing, Firewalls, VPN, High Availability, Disaster Recovery
* Leadership & Business Acumen: Technical Leadership, M&A Due Diligence, Roadmap Development, Strategic Planning, Mentorship

### 

### **PROFESSIONAL EXPERIENCE**

#### **Caseware Computer Systems, LLC 07/2004 – Present**

**Owner / Principal Software Engineer / Architect (Remote)**

* Led cloud-native transformations and microservices implementations for clients in insurance, healthcare, and security industries.
* Architected secure, scalable AWS solutions using Lambda, EKS, Terraform, Cognito, and DynamoDB.
* Integrated AI-driven automation and RAG-based search applications to optimize business workflows.
* Developed enterprise networking solutions including TLS, DNS, and high-performance caching layers.
* Provided technical mentorship and architectural guidance for modernization projects.

### **Varsity Tutors (Nerdy, Inc.) 10/2021 – 02/2025**

**Staff Software Engineer / Tech Lead (Remote)**

At Varsity Tutors (Nerdy, Inc.), I played a pivotal role in leading engineering initiatives, driving architectural improvements, and implementing cloud-native solutions to scale the company’s live learning platform. My work spanned across AWS, AI-driven automation, microservices development, and DevOps practices, ensuring high availability, security, and efficiency across the platform.

### Key Responsibilities

#### Cloud & Infrastructure Architecture

* Designed and optimized AWS cloud infrastructure, leveraging Lambda, API Gateway, S3, DynamoDB, ECS, and EKS to build scalable, event-driven systems.
* Led the modernization of legacy services, migrating monolithic applications to microservices-based architectures, improving scalability and maintainability.
* Enhanced caching strategies with Redis Enterprise, reducing database load and improving response times across high-traffic services.
* Designed and implemented observability frameworks using AWS CloudWatch, Prometheus, and OpenTelemetry, improving system monitoring and debugging.

#### Generative AI & Intelligent Automation

* Integrated AI-powered automation using ChatGPT/OpenAI, Claude, and Assembly.ai, streamlining workflows and reducing manual intervention in engineering and support tasks.
* Leveraged Retrieval-Augmented Generation (RAG) and Model Context Protocol (MCP) to improve intelligent knowledge retrieval for engineering and customer support.
* Designed AI-assisted operational tooling, enabling real-time analysis and proactive issue resolution across platform services.

#### Backend & Microservices Development

* Developed and maintained distributed microservices in Go, Python, and Node.js, integrating seamlessly with AWS services.
* Designed RESTful and GraphQL APIs, ensuring efficient data access patterns and scalable service interactions.
* Optimized database queries and schema designs in PostgreSQL, DynamoDB, and MySQL, improving performance and reliability.
* Implemented event-driven architectures using AWS SQS, SNS, and Kinesis, ensuring real-time processing and fault tolerance.

#### Security & Compliance

* Implemented secure authentication and access control using AWS Cognito, Okta, and JWT-based authentication.
* Designed AWS IAM policies with least-privilege access, ensuring adherence to security best practices and compliance standards.
* Led security audits and reviews, improving compliance with SOC 2 and PCI DSS requirements.

#### DevOps & CI/CD Automation

* Built and maintained CI/CD pipelines using GitHub Actions, Jenkins, and AWS CodeBuild, automating software deployments and infrastructure provisioning.
* Implemented Terraform-based infrastructure-as-code (IaC), ensuring repeatability and reducing configuration drift across environments.
* Managed containerized workloads with Kubernetes (EKS) and ECS, improving deployment efficiency and scalability.

#### Technical Leadership & Mentorship

* Led architecture and design discussions, aligning engineering efforts with business goals.
* Mentored junior and mid-level engineers, providing guidance on cloud-native development, security best practices, and software design principles.
* Facilitated cross-team collaboration, working closely with product managers, data scientists, and platform engineers to drive innovation.
* Championed Agile and DevOps culture, improving team velocity and deployment efficiency.

### Key Technologies Used

* Cloud & DevOps: AWS (Lambda, API Gateway, ECS, EKS, DynamoDB, S3, IAM, CloudWatch)
* Infrastructure as Code: Terraform, AWS CloudFormation
* Microservices & Backend: Go, Python, Node.js, PostgreSQL, DynamoDB, Redis Enterprise
* CI/CD & Automation: GitHub Actions, Jenkins, AWS CodeBuild
* AI & Machine Learning: ChatGPT/OpenAI, Claude, Assembly.ai, Retrieval-Augmented Generation (RAG), Model Context Protocol (MCP)
* Security & Compliance: AWS IAM, JWT Authentication, Okta, SOC 2, PCI DSS

### **Inseego 11/2019 – 09/2021**

**Architect / Staff Software Engineer (Remote)**

At Inseego, I played a pivotal role in architecting and implementing cloud-native solutions that powered high-performance IoT and enterprise connectivity platforms. My work primarily focused on AWS cloud architecture, microservices, DevOps automation, and performance optimization of backend systems supporting IoT networking and fleet management solutions.

### Key Responsibilities

#### Cloud & Infrastructure Architecture

* Designed and implemented scalable cloud-native solutions in AWS, utilizing EC2, Lambda, S3, API Gateway, and DynamoDB.
* Led migration of legacy services to AWS, improving performance and reducing operational overhead.
* Developed distributed caching layers using Redis Enterprise, optimizing response times and reducing database load.
* Implemented robust network infrastructure, managing TLS/SSL, DNS configurations, and load balancing across multiple regions.

#### Microservices & Backend Development

* Developed and optimized RESTful APIs using Node.js, Java, and .NET Core, ensuring high availability and performance.
* Designed event-driven architectures using AWS SQS, SNS, and Kinesis, improving system reliability and scalability.
* Integrated third-party APIs for IoT telemetry data ingestion and processing, enabling real-time analytics and monitoring.

#### DevOps, CI/CD & Automation

* Developed and maintained CI/CD pipelines using GitHub Actions and Jenkins, automating software builds and deployments.
* Implemented infrastructure-as-code (IaC) using Terraform, enabling consistent and automated AWS resource provisioning.
* Containerized and orchestrated microservices using Docker and Kubernetes, improving deployment efficiency and fault tolerance.
* Automated application monitoring and alerting with AWS CloudWatch, Prometheus, and Grafana, enhancing system observability.

#### Security & Compliance

* Implemented IAM role-based access control (RBAC), ensuring least privilege security practices across AWS environments.
* Designed secure authentication mechanisms using AWS Cognito and JWT-based authentication.
* Conducted security reviews and compliance assessments, ensuring adherence to SOC 2 and NIST guidelines.

#### Technical Leadership & Mentorship

* Led architecture and design reviews, ensuring best practices in cloud computing, DevOps, and backend development.
* Mentored junior engineers, providing guidance on cloud-native development, software design patterns, and AWS best practices.
* Facilitated cross-team collaboration, aligning engineering efforts with business objectives and product roadmaps.

### Key Technologies Used

* Cloud & DevOps: AWS (Lambda, API Gateway, EC2, S3, DynamoDB, IAM, CloudWatch)
* Infrastructure as Code: Terraform, AWS CloudFormation
* Containerization & Orchestration: Docker, Kubernetes
* CI/CD: GitHub Actions, Jenkins
* Monitoring & Observability: Prometheus, Grafana, AWS CloudWatch
* Backend & Databases: Node.js, Java, .NET Core, PostgreSQL, DynamoDB, Redis Enterprise
* Security & Compliance: AWS IAM, TLS/SSL, JWT Authentication, SOC 2

### **Nike (TEK Systems Contract) 07/2019 – 11/2019**

**Senior Java Software Engineer / SRE Consultant (Hillsboro, OR)**

At Nike, I played a key role in modernizing and optimizing cloud-native infrastructure and applications, leveraging AWS and Azure to improve performance, security, and scalability. My work focused on Java-based microservices, CI/CD automation, and cloud architecture, ensuring seamless integration with existing enterprise systems.

### Key Responsibilities

#### Cloud & Infrastructure Modernization

* Architected and implemented cloud-native solutions in AWS and Azure, optimizing Java-based microservices for scalability and cost efficiency.
* Developed and deployed AWS Lambda-based microservices, reducing operational overhead and improving system responsiveness.
* Designed and deployed secure API gateways using AWS API Gateway with JWT authentication, ensuring secure access control.
* Refactored and containerized existing Java services using Docker and Kubernetes, enabling faster deployments and reducing downtime.
* Improved database performance by optimizing PostgreSQL queries for better efficiency.

#### CI/CD & DevOps Engineering

* Developed and maintained Jenkins CI/CD pipelines, automating build, test, and deployment workflows for production services.
* Integrated infrastructure as code (IaC) using Terraform, automating provisioning and deployment of AWS resources.
* Implemented blue-green and canary deployment strategies, minimizing production downtime and reducing deployment risks.
* Developed automated testing frameworks for backend services, improving code quality and release stability.

#### Security & Compliance

* Hardened web services against security threats, ensuring compliance with OWASP standards and protecting against XSS and SQL injection attacks.
* Implemented secure authentication mechanisms, integrating AWS Cognito for federated identity management.
* Developed and enforced IAM role-based access controls (RBAC) to minimize security risks.

#### Site Reliability Engineering (SRE) & Observability

* Developed real-time monitoring dashboards using Grafana and AWS CloudWatch, improving observability and alerting.
* Implemented log aggregation using the ELK stack (Elasticsearch, Logstash, Kibana) for faster troubleshooting.
* Optimized Kubernetes deployments for cost efficiency and improved cluster performance.

#### Backend Engineering & API Development

* Developed and optimized Java-based RESTful services, integrating with enterprise authentication systems and ensuring high performance.
* Designed event-driven architectures using AWS SQS and SNS, improving system resilience and asynchronous processing.

#### Technical Leadership & Mentorship

* Provided technical guidance and peer code reviews, ensuring best practices in Java, AWS, and CI/CD automation.
* Mentored junior engineers in cloud-native development, security best practices, and DevOps methodologies.
* Led knowledge-sharing sessions on AWS services, Terraform automation, and Kubernetes orchestration.

### Key Technologies Used

* Cloud & DevOps: AWS (Lambda, API Gateway, S3, DynamoDB, EC2, IAM), Azure
* Infrastructure as Code: Terraform, AWS CloudFormation
* Containerization & Orchestration: Docker, Kubernetes
* CI/CD: Jenkins, GitHub Actions
* Monitoring & Observability: ELK Stack (Elasticsearch, Logstash, Kibana), Prometheus, Grafana, AWS CloudWatch
* Backend & Databases: Java (Spring Boot), PostgreSQL, DynamoDB, Redis
* Security & Compliance: AWS IAM, TLS/SSL, JWT Authentication
* Messaging & Event-Driven Architecture: AWS SQS, SNS

### **Symantec Corporation 07/2016 – 07/2019**

**Sr. Principal Site Reliability Engineer / Team Lead (Springfield, OR)**

At Symantec Corporation, I played a key role in migrating thousands of legacy services from on-premises to Microsoft Azure. Given Azure's early-stage maturity at the time, I helped develop internal tooling, infrastructure automation, and cloud-native solutions to modernize operations while navigating platform limitations.

### Key Responsibilities & Achievements

#### Enterprise Cloud Migration & Modernization

* Led the migration of 4,000+ services from on-prem to Azure, decommissioning legacy data centers.
* Designed cloud-native architectures using Azure Virtual Machines, Azure App Services, and Azure Functions, adapting to Azure’s evolving capabilities at the time.
* Developed Terraform and ARM templates to automate infrastructure provisioning, increasing deployment consistency.
* Established internal Yum repositories and Docker image registries using Artifactory, as Azure Container Registry did not yet exist.
* Designed and implemented self-managed Kubernetes clusters (K8s) for container orchestration, as Azure Kubernetes Service (AKS) was unavailable.
* Leveraged Azure Service Bus for messaging, implementing custom retry logic to improve reliability.

#### CI/CD & DevOps Automation

* Designed Jenkins and Spinnaker pipelines for CI/CD, automating deployment and infrastructure provisioning.
* Implemented GitOps workflows, enabling declarative infrastructure management and automated rollbacks.
* Introduced blue-green and canary deployments, minimizing downtime and deployment risk.
* Developed custom automation for container image builds using Docker, Artifactory, and Jenkins.

#### Site Reliability Engineering (SRE) & Observability

* Automated operational workflows using Python, Bash, and PowerShell scripts, reducing manual interventions.
* Developed real-time monitoring solutions using Azure Monitor, Log Analytics, and ELK (Elasticsearch, Logstash, Kibana).
* Designed centralized logging systems to compensate for Azure’s early-stage logging limitations.
* Built automated incident response workflows via Azure Logic Apps & Functions, reducing MTTR (Mean Time to Recovery).
* Led technical war rooms for major incidents, establishing RCA (Root Cause Analysis) processes.

#### Security, Compliance & IAM

* Implemented secrets management using Vault (by HashiCorp), as Azure Key Vault was not yet fully mature.
* Developed custom IAM roles and RBAC policies using Azure Active Directory (AAD) to enforce least privilege access.
* Automated container security scanning and vulnerability assessments, improving production environment security.

#### Infrastructure & Performance Engineering

* Designed internal networking solutions, managing TLS, DNS, and load balancing for high availability.
* Optimized infrastructure configurations and auto-scaling strategies, mitigating Azure’s early performance limitations.

#### Technical Leadership & Mentorship

* Led a team of up to 7 engineers, mentoring them on Azure infrastructure, Kubernetes, security best practices, and CI/CD automation.
* Conducted internal workshops on Terraform, Kubernetes, and Spinnaker, driving teamwide skill growth.
* Authored onboarding guides and operational runbooks, accelerating team ramp-up on Azure technologies.

### Key Technologies Used (2016-2019)

* Cloud Platforms: Microsoft Azure (Virtual Machines, App Services, Functions, AAD, Service Bus, Logic Apps)
* Infrastructure as Code (IaC): Terraform, ARM Templates
* CI/CD & DevOps: Jenkins, Spinnaker, GitOps
* Containers & Orchestration: Docker, Kubernetes (Self-Managed K8s Clusters)
* Monitoring & Observability: Azure Monitor, Log Analytics, ELK Stack (Elasticsearch, Logstash, Kibana)
* Security & Compliance: Vault (by HashiCorp), Azure Active Directory (AAD), Terraform security modules
* Artifact & Image Management: Artifactory for internal Yum repositories & Docker registries
* Scripting & Automation: Python, PowerShell, Bash

### Impact & Contributions

* Migrated 4,000+ services to Azure, modernizing infrastructure despite early cloud limitations.
* Reduced cloud costs via custom auto-scaling strategies and infrastructure right-sizing.
* Increased deployment speed by 60% through CI/CD automation and Infrastructure as Code.
* Improved system uptime, implementing fault-tolerant architectures and automated recovery mechanisms.
* Drove early-stage Azure adoption, ensuring teams transitioned to cloud-native architectures effectively.

### **Feeney Wireless 10/2014 – 11/2015**

### **Software Engineering/DevOps Consultant (Eugene, OR)**

### As a Software Engineering and DevOps Consultant at Feeney Wireless, I played a key role in modernizing their SaaS delivery platform, developing mobile applications, and supporting critical infrastructure improvements. My work involved architecting scalable backend solutions, implementing cloud-based integrations, and enhancing system automation to improve the efficiency of Feeney’s connectivity and IoT services.

### Key Responsibilities

#### Cloud-Native & SaaS Development

### Developed and optimized cloud-based SaaS solutions for wireless device management and IoT monitoring, enabling scalability and multi-tenancy.

### Designed and implemented API-driven services using Node.js, Java, PHP, and C#, ensuring seamless data processing across IoT devices and cloud infrastructure.

### Engineered RESTful and SOAP web services for secure device-to-cloud communication, handling telemetry data from a large fleet of wireless-enabled devices.

### Redesigned Feeney’s proprietary remote device management platform, improving scalability, performance, and security for large-scale M2M (Machine-to-Machine) deployments.

#### DevOps & Infrastructure Optimization

### Implemented CI/CD pipelines using Jenkins, automating deployment and improving release management efficiency.

### Set up local instances of ASP.NET-based applications (WiOPS) after the vendor discontinued support, troubleshooting defects and restoring full functionality.

### Developed automated provisioning scripts for infrastructure as code (IaC) using Ansible and Bash, reducing manual configuration overhead.

#### Mobile Application Development

### Developed and maintained Android applications for real-time monitoring of on-board wireless connectivity platforms, enabling technicians to remotely diagnose and troubleshoot issues.

### Integrated mobile telemetry tracking features with backend data processing pipelines, enhancing visibility into network performance and device health.

#### Networking & Wireless Connectivity Solutions

### Worked with enterprise networking and M2M communication technologies, optimizing wireless connectivity and remote access solutions for IoT applications.

### Assisted in debugging and refining wireless telemetry data ingestion, ensuring accurate and reliable communication between remote devices and cloud services.

### Key Technologies Used

### Backend & APIs: C/C++, Java, PHP, Node.js, C#/.NET, ASP.NET WebForms

### Cloud & DevOps: Jenkins (CI/CD), Ansible, Bash, Infrastructure as Code (IaC)

### Databases: MySQL, SQL Server, Redis

### Mobile & IoT: Android SDK, Wireless Telemetry, M2M Communications

### Web Services & Protocols: SOAP, REST, XML, JSON

**MORE PROFESSIONAL EXPERIENCE**

### **Feeney Wireless 08/2012 – 10/2014 & 11/2015 – 02/2017**

### **Software Engineer III (Eugene, OR**)

### As a Software Engineer III at Feeney Wireless, I played a pivotal role in developing, optimizing, and leading key R&D efforts for the company's next-generation Smart Technology solutions in M2M (Machine-to-Machine) communications and embedded systems. My contributions spanned software development, system automation, research & development, and mentoring junior engineers, ensuring the successful deployment of highly scalable and adaptive IoT solutions.

### **Softsource Consulting 04/2015 – 11/2015**

**Senior Software Engineer (Portland, OR) – Client: WebMD**

At Softsource Consulting, I worked as a Senior Software Engineer on a WebMD contract, leading initiatives to modernize and enhance their cloud-based applications. My role focused on scaling enterprise healthcare applications, optimizing AWS cloud infrastructure, and improving security, performance, and maintainability.

### **InterVision Media 06/2009 – 08/2012**

**Senior Software Engineer (Eugene, OR)**

At InterVision Media, I worked as a Senior Software Engineer, contributing to the development of data-driven healthcare research applications, IVR systems, and multimedia platforms. I collaborated with institutions such as the University of Michigan, IBEW, and the University of Oregon, helping develop solutions for cancer awareness, smoking cessation, and diabetes intervention studies. My role focused on full-stack development, telephony integration, media distribution automation, and data analytics, ensuring seamless interactions between users, research teams, and automated systems.

### **Plexis Healthcare Systems 07/2007 – 04/2009**

**EDI Software Engineer (.NET, SQL, X12 Processing) (Medford, OR)**

At Plexis Healthcare Systems, I worked as an EDI Software Engineer, contributing to the development and enhancement of claims processing and healthcare management solutions. My role focused on electronic data interchange (EDI), working with HIPAA-compliant systems, and ensuring efficient claims automation for healthcare providers and payers.

#### **USAF: Oregon Air National Guard 01/2001 – 01/2009**

**F-15 Avionics Technician (Klamath Falls, OR)**

* Performed diagnostics and maintenance on F-15 avionics systems, including radar, weapons delivery, and navigation systems.
* Led troubleshooting teams ensuring mission-critical systems remained operational.

### **EDUCATION**

* Georgia Tech – Master of Science in Computer Science, Specialization in AI: Interactive Intelligence *(Expected 2026)*
* Oregon Institute of Technology – Bachelor of Applied Science in Computer/IT Administration & Management
* Oregon Institute of Technology – Associate of Science in Software Engineering Technology
* Community College of the Air Force – Associate of Science in Avionics & Electronics Engineering
* U.S. Career Institute – Paralegal Certification
* Purdue Global Law school – Juris Doctor (Set to start next cohort)