

JOHN PRATT

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EXPERIENCE

Northern Trust, Remote

Feb 2024 - May 2025

Senior Software Engineer

- **Secured ~\$20T in client assets (30k customers)** by developing a Java Spring Boot library for Okta Auth that enhanced REST API security with JWT validation and Azure Entra integration, **reducing security incidents by ~25%**
- **Reduced deployment errors by ~40%** using a custom Azure Cosmos DB Terraform module; **cut Azure costs by ~\$35k/month** by optimizing DBs & requiring approval for high-cost Terraform changes
- **Led migration & boosted database performance by 31%** via on-prem PCF OracleDB to Azure Microsoft SQL migration with VMs & Azure Data Factory
- **Increased remote Virtual Desktop login speed by 93%** for ~60 engineers using Python Selenium automation
- **Accelerated deployment speeds by 40%+** by consolidating Terraform modules for Azure (subnets, VNets, KeyVault, Cosmos DB, Linux/Windows/Static Web Apps, Azure Kubernetes Service, Azure Container Apps & more) and improved resiliency for 100+ engineers by upgrading AzureRM modules to v4 with multi-region support
- **Reduced manual tasks by 45%** using PowerShell for email/calendar forwarding and VDI logins
- **Achieved 94% tagging coverage** across Terraform-managed Azure resources by implementing automated tagging standards in service modules, improving cost allocation and resource traceability
- **Cut ~\$100k/month** in infrastructure costs via Azure cost audits & custom Dashboard & KQL queries

Pratt Solutions, Remote

May 2020 - Present

Lead Software Engineer, Founder/CEO, Coach

- Taking on IT/software engineering consulting & career/life coaching projects as my schedule allows while I wind down operations to take on my next full-time/long-term contract role
- **Enhanced Snowflake data retrieval by 35% for client's 1M vehicles** with a Python REST API on AWS, and lowered security incidents by 20% through DevOps/SecOps best practices for 60+ engineers
- **Cut document upload times by 91%** with automated LinkedIn profile scraper
- **Boosted uptime and reduced latency by 22%** for a Gemini-based document-processing app using OpenTelemetry, Prometheus, and GCP alerts, and improved system reliability by 18e% for client's ~\$110B in assets with refined GCP SLO/SLI policies
- **Sped up incident response by 18%** via custom Google Cloud alerts
- Built and led a global team of 5+ freelancers for BizOps
- **Generated ~100k TikTok views** with a cloud pipeline for AI-generated videos using Python, AWS, OpenAI's API, and NLP

Duke Energy, Remote

Jul 2021 - Jan 2024

Senior Software Engineer

- Saved Duke ~\$1M in Labor Capacity annually by leading backend & DevOps for Orbit, an iPad app replacing manual data acquisition and logging at ~100 Duke power plants with several thousand users. Used Python, AWS (Lambda, API Gateway, S3, IAM, CloudWatch, DynamoDB, VPC...), Node.js, Terraform, Bash, Concourse, & more
- Enabled user file attachments by integrating Orbit API with AWS S3 with custom Terraform module
- Enforced 90% code coverage for Python unit tests, ensuring code reliability
- Coordinated, managed, and performed production releases
- Accelerated prod incident tracking with DynaTrace/AWS X-Ray dashboards, to ease process of issue tracking
- **Eased onboarding and reduced release times by 30%** by refactoring API endpoint Terraform code
- **Sped up AWS Lambda functions by ~21%** using shared runtime environment & caching
- Architected, pitched, & created custom "documentation generation" component to streamline communication of new API features. Uses EventBridge, CloudTrail & more
- **Shrunk Concourse codebase by ~35%** by migrating from Terraform OSS to Enterprise
- **Reduced infra PR merge time by 8-24h** by migrating AWS infra from shared to dedicated environment
- Enhanced code quality & security by integrating SonarQube, Sonatype IQ, & CheckMarx into CI/CD pipeline
- Boosted reliability of Orbit API with Postman integration/load tests, written with auto-generating web-scraper
- **Reduced Integration Test PR merge time, & codebase size by ~94%** with Chai.js/JavaScript Postman helper functions
- **Led collaborative efforts across ~100 engineers** with 5+ "Communities of Practice", along with 6+ project teams, enabling scalable & reusable features and cross-project collaboration
- Enhanced custom SwaggerDoc security w/custom Node.js authorizer, ensuring incoming traffic was from Duke network

Capital One, Remote; McLean, VA; Richmond, VA

Aug 2019 - Jun 2021

Software Engineer; Technology Development Program Mentor; Software Engineer Intern

- Saved Capital One ~**\$10k in fines per customer annually** by creating the data fulfillment pipeline for CCPA compliance for its ~**100 million customers**, enhancing customer privacy. Used Python, AWS, Docker, Java Spring Boot, Apache Airflow, Apache Kafka & more
- Wrote component for processing & uploading zip files of customer assets (CCPA records) to S3 & alerting web app team via Apache Kafka so they can email customers
- Created Kafka consumer component to process privacy requests ready for processing by our pipeline
- Helped create Python component “Query Builder” to dynamically generate PostgreSQL & Snowflake queries
- Facilitated project shifts for improved value-add & return offers for 2 interns while leading professional development for 5 engineers
- Ensured seamless CI/CD by increasing unit test coverage to 90%+ for all components in our pipeline
- **Screened 20+ software engineer applicants** & got 1 peer hired at the firm by engaging in technical interviews & recruiting
- Supported Capital One pilot-program data warehouse SaaS (Slingshot) - Python, Java Spring Boot, AWS ECS, Docker, AWS DynamoDB, protobuf/gRPC, React, Snowflake - including creating reusable React components

Lockheed Martin, Manassas, VA

Summers 2015 - 2016

Tech Intern; Senior Tech Intern (held Secret Security Clearance)

EDUCATION

Georgia Institute of Technology, Atlanta, GA

Bachelor of Science - Computer Science (concentrations: Artificial Intelligence, People)

PROFESSIONAL CERTIFICATIONS

Amazon Web Services

2021-2024

[Solutions Architect Professional](#), [DevOps Engineer Professional](#), [Solutions Architect Associate](#), [Developer Associate](#), [SysOps Administrator Associate](#), [Data Engineer Associate](#), [Machine Learning Engineer Associate](#), [Security Specialist](#), [Networking Specialist](#), [Machine Learning Specialist](#), [AI Practitioner](#), [Cloud Practitioner](#)

Microsoft Azure

2024-2025

[Solutions Architect Expert](#), [DevOps Engineer Expert](#), [Cybersecurity Architect Expert](#), [Developer Associate](#), [Administrator Associate](#), [Security Engineer Associate](#), [Network Engineer Associate](#), [AI Engineer Associate](#), [Data Engineer Associate](#), [Database Administrator Associate](#), [Identity and Access Administrator Associate](#), [Cosmos DB Developer Specialist](#), [Virtual Desktop Specialist](#), [SecOps Analyst Associate](#), [AI Fundamentals](#), [Security, Compliance, & Identity Fundamentals](#), [Azure Fundamentals](#)

Google Cloud

2023-2025

[Professional Cloud Developer](#), [Professional Cloud DevOps Engineer](#), [Professional Cloud Architect](#), [Professional Cloud Network Engineer](#), [Professional Cloud Security Engineer](#), [Professional Cloud Database Engineer](#), [Professional Data Engineer](#), [Professional Machine Learning Engineer](#), [Associate Cloud Engineer](#), [Associate Workspace Admin](#), [Cloud Digital Leader](#), [Intro to LLMs](#), [Intro to Responsible AI](#), [Intro to Generative AI](#)

Snowflake

2024

[SnowPro Architect](#), [SnowPro Data Engineer](#), [SnowPro Data Scientist](#), [SnowPro Data Analyst](#), [SnowPro Administrator](#), [SnowPro Core](#)

Databricks

2024

Generative AI ([Associate](#), [Fundamentals](#)), Machine Learning Engineer ([Professional](#), [Associate](#)), Data Engineer ([Professional](#), [Associate](#)), [Apache Spark 3.0 Associate Developer](#), [AWS Platform Architect](#), [Azure Platform Architect](#), [GCP Platform Architect](#), [Databricks Fundamentals](#), [Data Analyst Associate](#)

The Linux Foundation

2024

[OpenJS Node.js Services Developer](#), [OpenJS Node.js Application Developer](#), [Certified Kubernetes Administrator](#), [Kubernetes and Cloud Native Associate](#)

Other organizations

2020-2025

[Docker Certified Associate](#) (Docker, Inc.); [Certified Professional Python Programmer](#) (PCPP - Python Institute); Certified Secure Software Engineer (Secure Code Warrior); [Certified Cisco Network Associate](#), [Certified DevNet Associate](#) (Cisco); [Liquibase Certified Practitioner](#) (Liquibase); [Progress Chef Associate](#) (Progress Software); [Confluent Fundamentals](#), [Certified Apache Kafka Developer](#), [Certified Apache Kafka Administrator](#), [Certified Cloud Operator](#) (Confluent); [GitHub Actions certified](#) (GitHub); [Terraform Associate](#), [Consul Associate](#) (HashiCorp); [Business User Associate](#) (Alibaba Cloud)

SKILLS

Languages, concepts:

Python (2, 3), Bash, HCL (Terraform OSS, Enterprise, Cloud; AWS, AzureRM, AzAPI, Google), JavaScript (Node.js, React, Angular), Docker, Kubernetes, Java (Spring Boot 3), Go, PowerShell, Lua, Scala, Groovy, Progress Chef; unit testing, integration testing, smoke testing, performance testing, test-driven development; CI/CD (continuous integration and continuous deployment), DevOps, SecOps, GitOps, Databases, SQL (PostgreSQL/Postgres, MySQL, SQLite); NoSQL (DynamoDB, MongoDB), KQL (Kusto Query Language), osquery (osquery.io); Prometheus Query Language (PromQL); GCP Logging Query Language (LQL), Monitoring Query Language (MQL); microservice architecture, cloud pipelines, data pipelines, CI/CD pipelines; Object Oriented Design, User-Centered Design; REST/RESTful APIs; OAuth2 flow; cloud infrastructure management, Infrastructure as Code (IaC), configuration management, software development best practices, troubleshooting, refactoring, analyzing & prioritizing business objectives; monitoring and logging; containerized workloads, serverless architecture; orchestration; serialization; automated testing; debugging, root cause analysis; containerization; large language models, prompt engineering; distributed systems; B2B SaaS applications; networking, VLANs, DNS leaks, VPNs, home networking, proxy servers, configuration drift (“config drift”)

Libraries/frameworks:

pip, pipenv, pytest, requests, boto3, unittest, coverage, assertpy, requests_mock, moto, pandas, NumPy, sqlsmith, Selenium, yt-dlp, MoviePy, mutagen, pydub, pickle, Python Imaging Library (PIL/Pillow), PRAW (Python Reddit API Wrapper), spaCy, NLTK, OpenAI, Tkinter, inflect, Django; TikAPI; nvm, npm, gatsby, yarn, webpack, Chai.js, GraphQL, SquareSpace; gradle (8.10), Maven, Spring Web, Spring Security, JUnit, PowerMock, Mockito, Apache Avro; Hammerspoon, AutoHotKey; OpenTelemetry (Spans, Traces, Metrics)

Tools:

macOS, Windows, linux, unix, Ubuntu, FlatCar; Concourse, GitHub Actions, Jenkins, Postman, Insomnia; terraform-docs, tfint; Amazon Web Services (API Gateway, Lambda, CloudWatch, CloudTrail, IAM, X-Ray, S3, CloudFront, DynamoDB, EC2, ECS, Route 53, WAF, VPC, EventBridge, CloudFormation templates, Secrets Manager), Azure (Entra ID, AKS, App Config, App Insights, Azure Kubernetes Service [AKS], Container Apps, Azure Postgres, SQL Managed Instance, Azure SQL, Dashboards, VNETs, Subnets, Cosmos DB, KeyVault, Private Endpoint, Virtual Machines (Linux, Windows), Function Apps, Web Apps, Subscriptions, Multi-Region, Resource Graph Explorer, Purview, SignalR, Azure Monitor, Action Groups, Front Door, Stream Analytics, Azure Automation), Microsoft Intune, VenaFi, Google Cloud (“GCP” - CloudRun, Firebase, Firestore, Cloud Storage, Monitoring, Alerts, Buckets, Prometheus), Prometheus, Netlify, Vultr, Tailscale, WireGuard, OpenVPN, PiVPN; ffmpeg, pydub; PlantView, Apigee, DynaTrace; HashiCorp Envconsul, Vault; SonarQube, Checkmarx, Sonatype IQ; Artifactory, Sonatype Nexus, Liquibase; Git/GitHub, BitBucket; cURL, Snowflake, HomeBrew, direnv, Wireshark, Little Snitch; Splunk, PagerDuty; Apache Airflow, Kafka, ZooKeeper; Agile, Scrum, SAFe, JIRA, Confluence; OpenAI API (Whisper, GPT), Gemini API (Pro, 1.5 Flash), Eleven Labs API, TikTok API, Pexels API, Pixabay API, Playwright; Swagger, OpenAPI; ServiceNow; JSON, YAML, XML, HTML; Parallels Desktop, VMWare Fusion, Citrix Workspace, Citrix Viewer, Windows App; ChatGPT (o1-preview, o1-mini, 4o, 3.5), Anthropic’s Claude (3.5, 3.0 - Sonnet, Haiku, Opus), Google Gemini (1.5 Flash, Pro), DeepSeek, Google Gemma, Amazon CodeWhisperer, GitHub Copilot, Grok (1, 2), Venice.ai, Meta Llama (3.2); bazel, buildifier; Vanta; OhMyZsh, GitLens

Soft/People:

Project management, SDLC (software development lifecycle), prioritization of tasks, coordinating cross-functional teams; talent development, mentorship, recruiting, public speaking, leadership; code review, problem-solving, decision-making (decision matrices), writing user stories, constructive feedback; thought leadership, technical sales, social engineering, consulting sales techniques, persuasion, champion building, loss aversion framing (“pitfall-based sales”), pre-sales engagements, customer engagement, qualifying, disqualifying, understanding customer needs, discovery, finding use cases, stakeholder management, strategic planning; requirement gathering, interpersonal skills