

# JOHN PRATT

Vienna, VA (Open to relocation) | 571-293-1522 | john@john-pratt.com  
linkedin.com/in/john-pratt787 | john-pratt.com

## EXPERIENCE

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### Pratt Solutions, Fairfax, VA

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
- Taught two Clients to build out **CI/CD pipelines**, **automate security scans** & convert **Cloud Infra** to **IaC** for their risk analysis & Telecom platforms
- Enhanced **Snowflake** data retrieval speeds for Client's ~1M vehicles with **Python REST API** on **AWS**
- **Cut document upload times by ~91%** with Python browser automation
- Helped Client design + implement AI-based Cloud Infrastructure Deployment tool with AWS Bedrock, Terraform & more
- Generated ~200k **TikTok views** with pipeline for AI-generated videos using Python, AWS, **OpenAI's API**, & **NLP**
- **Reduced manual tasks by ~10%** for Client's **100+ employees/contractors** via enhancements to internal employee-tracking web app using **AWS, Docker, Postgres** & more
- **Boosted uptime by 12% & sped up incident responses by ~18%** for Client's ~\$140B/yr loan platform using **OpenTelemetry, Prometheus, GCP Alerts, & GCP SLO/SLI** policies
- Built and leading a global team of 5+ freelancers for BizOps

### Northern Trust, Remote

Mar 2024 - May 2025

#### Senior Software Engineer

- Led several initiatives in end-to-end development of **Azure/AWS Terraform** service modules used by **200+ engineers**, with optimizations to cut ~\$100k/month in cloud spend. Used Python, Node.js, Java, GitHub Actions, K8s, Bash & more
- To **protect ~\$450B in assets**, built authentication & authorization library used by 15+ internal microservices & APIs
- Successfully migrated on-prem PCF infra to Azure for Wealth Management, cutting **Infrastructure costs by ~40%**
- Saved NTRS \$200k+ annually by accelerating login times ~93% for ~60 engineers using Python browser automation
- Optimized **Kubernetes** manifests - including Pods, Deployments, & Ingress resources
- Led plans for penetration + security testing for Wealth Enrollments' migration, including seeing these efforts to fruition
- **Cut incident resolution times by ~19%** via Azure **Monitor Action Groups** & email Alerts
- **Reduced select security incidents ~11% YoY** related to misconfigured Azure/AWS resources & Terraform modules thanks to my DevOps/SecOps best practice guides & Module refactors
- **Accelerated deployment speeds** by consolidating Terraform modules for key Azure/AWS resources and improved resiliency for 100+ engineers by upgrading AzureRM modules to v4 with multi-region support
- **Reduced manual tasks** using PowerShell for email/calendar forwarding for team of ~60 engineers

### 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, Node.js, Terraform, Bash, Azure, 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
- Managed production releases, accelerated incident tracking with DynaTrace/AWS X-Ray dashboards
- **Sped up AWS Lambda functions by ~21%** using shared runtime environment & caching
- Built custom API documentation generator using EventBridge, CloudTrail, and more to streamline feature communication
- **Reduced infra PR merge time by 8-24h** by migrating AWS infra from shared to dedicated environment
- Increased 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 web app security w/custom **Node.js** authorizer, ensuring incoming traffic was from Duke network

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

Summers 2017-2018, Aug 2019 - Jun 2021

#### Software Engineer; TechnologyMentor; Software Engineer Intern

- Saved Capital One ~\$10k per customer annually in fines by creating the data fulfillment pipeline for legal compliance for its ~100M customers. Used Python, AWS, Docker, Java Spring Boot, Apache Airflow, Kafka & more

- Built component to ETL customer data to AWS and notify our web app team via Kafka for customer outreach emails
- Developed Kafka consumer to process privacy requests for downstream processing
- Co-developed “Query Builder,” a Python module to dynamically generate PostgreSQL and Snowflake queries
- Boosted CI/CD reliability by raising unit test coverage to 90%+
- **Mentored 5 engineers** and guided **2 interns** toward high-impact projects and return offers
- Conducted 20+ technical interviews for software engineer roles; referred 4 qualified peers, 1 who was independently hired
- Supported Capital One pilot-program data warehouse SaaS “Slingshot” - AWS, Python, Java Spring Boot, Docker, protobuf/gRPC, React, Snowflake

**Genie, Atlanta, GA**

**2016 - 2017**

*Software Engineer, Co-Founder*

**Lockheed Martin, Manassas, VA**

**2015 - 2016**

**(held Secret Security Clearance)**

- **Saved Lockheed ~\$125k annually** by reducing errors in auto-generated technical documentation by ~26% in 1.5 months via stand-alone Java desktop application for sanitizing malformed output from legacy proprietary software

## **EDUCATION**

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**Georgia Institute of Technology, Atlanta, GA**

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

**Amazon Web Services**

**2021-2024**

Solutions Architect Professional, DevOps Engineer Professional, Developer Associate, Security - Specialty, SysOps Administrator Associate, AI Practitioner

**Microsoft Azure**

**2022-2025**

DevOps Engineer Expert, Solutions Architect Expert, Developer Associate, Security Engineer Associate, AI Engineer Associate

**Google Cloud**

**2023-2025**

Professional Cloud DevOps Engineer, Professional Cloud Developer, Associate Cloud Engineer

**The Linux Foundation**

**2022-2024**

OpenJS Node.js Application Developer, Kubernetes and Cloud Native Associate

**Databricks**

**2024**

AWS Platform Architect, Azure Platform Architect, Generative AI Engineer Associate, Databricks Fundamentals

**Other organizations**

**2020-2025**

Certified Professional Python Programmer (PCPP - Python Institute); Terraform Associate (HashiCorp); Docker Certified Associate (Docker, Inc); Certified Secure Software Engineer (Secure Code Warrior); GitHub Actions certified (GitHub); SnowPro Core (Snowflake); Liquibase Certified Practitioner (Liquibase); Certified Apache Kafka Developer (Confluent)

## **SKILLS**

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**Languages, concepts:**

Python (2, 3), Bash, HCL (Terraform OSS, Enterprise, Cloud; AWS, AzureRM, AzAPI, Google), JavaScript (Node.js, React, Angular, TypeScript), Docker, Kubernetes, Java (Spring Boot 2, 3), PowerShell, Lua; 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); 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, analyzing & prioritizing business objectives; 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”); LLMs, Model Context Protocol (MCP); SOC 2, ISO 27001, NIST; machine learning, model development, A/B testing

**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), spaCy, NLTK, OpenAI, Tkinter, inflect, Django; TikAPI; nvm, npm, gatsby, yarn, GraphQL; gradle, Maven, Spring Web, Spring Security, JUnit, PowerMock, Mockito, Apache Avro; React, Angular, AngularJS

**Platforms & Tools:**

macOS, Windows, linux; Concourse, GitHub Actions, Jenkins, Postman, Insomnia; terraform-docs, tfint; Amazon Web Services (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], Azure Container Apps, Azure Postgres, Azure SQL Managed Instance, Azure SQL, Dashboards, VNETs, Subnets, Cosmos DB, RBAC, 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; Apigee, DynaTrace; HashiCorp Envconsul, Vault; SonarQube, Checkmarx, Sonatype IQ; Artifactory, Sonatype Nexus, Liquibase; Git/GitHub, BitBucket; cURL, Snowflake, HomeBrew, direnv, Wireshark; 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; Citrix Workspace, Citrix Viewer; ChatGPT (Operator, 4o, o3, o4, o1, o1-mini, 3.5), Anthropic’s Claude (computer use, Opus Sonnet, Haiku), DeepSeek, Google Gemma, Amazon CodeWhisperer, GitHub Copilot, Grok (1, 2), Cursor, Claude Code; bazel, buildifier; Vanta; OhMyZsh, GitLens; Swagger

**Soft/People:**

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