

JOHN PRATT

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EXPERIENCE

Pratt Solutions | Fairfax, VA | Lead Software Engineer, Founder | May 2020 - Present

- Taking on IT/software engineering consulting 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 | Senior Software Engineer | Mar 2024 - May 2025

- 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; Charlotte NC | Senior Software Engineer | Jul 2021 - Jan 2024

- 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 video and picture attachments by integrating Orbit API with AWS S3 with custom Terraform module
- **Enforced 90% code coverage for 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 authorizer, ensuring incoming traffic was from Duke network

Capital One | Remote; McLean, VA; Richmond, VA | Software Engineer; Software Engineer Intern | Summer 2017-2018, Aug 2019 - Jun 2021

- 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

Pallotone | Fairfax, VA; Remote | Founding Engineer | 2017-2019

- Wrote core NodeJS backend for audio hosting platform to share music in a multi-track format
- Facilitated development work for front-end web app (Angular)

Genie | Atlanta, GA; Remote | Founding Engineer | 2016 - 2017

- Architected and implemented core back-end using Node.js, supporting fast, modular genealogy data operations
- Integrated Electron to deliver a cross-platform desktop experience independent of browser or OS constraints
- Collaborated on front-end components in Angular, including data binding and service integration for D3-based family tree visualizations

Lockheed Martin | Manassas, VA | Senior Tech Intern | 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

Georgia Institute of Technology | Atlanta, GA

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

Amazon Web Services

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

Microsoft Azure

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

Google Cloud

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

The Linux Foundation

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

Databricks

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

Other organizations

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

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, tflint; 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