

# JOHN PRATT

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## EXPERIENCE

**Pratt Solutions** | Washington DC Metro Area | Lead Software Engineer, Founder | May 2020 - Present

- Taking on IT/software engineering consulting projects as my schedule allows while I find my next full-time/long-term role
- Taught 3 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%** for Client 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
- Led High Level Designs & Implementation Roadmaps & **Python** feature work for startup Client
- Fixed critical production bug in Client's Java/Postgres SOAP API costing them **~\$43k/mo in lost bookings**
- **Helped Client save ~\$1M annually** in licensing fees by migrating from Oracle DB to Postgres
- Designing, building & deploying company websites for several local businesses with React, Supabase & Netlify
- Built and leading a global team of 5+ full-time employees & freelancers for development & 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**, GitHub Actions, Node.js, Java, K8s, Bash & more
- To protect **~\$450B in assets under management**, built authentication + authorization library used by 15+ APIs & microservices
- 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
- Led plans for penetration + security testing for Wealth Enrollments' migration, including seeing these efforts to fruition
- Enhanced CI/CD scripts & configs for GitHub Actions -based pipelines for deploying Azure resources via Terraform
- **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

**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 (Lambda, API Gateway, DynamoDB, WAF, CloudFront & more), NodeJS, Terraform, Bash, Azure, Concourse, & more
- Enabled user video and picture attachments by integrating Orbit's **REST API** with AWS S3 via custom Terraform module
- Managed production releases, accelerated incident tracking with DynaTrace/AWS X-Ray dashboards
- **Sped up 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
- **Led collaborative efforts across ~100 engineers** with 5+ "Communities of Practice", along with 6+ project teams, enabling scalable & reusable features and cross-project collaboration

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

- 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 (ECS, RDS, S3), **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 consolidated privacy requests in S3 for customer notification
- 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 (EKS, Fargate, DynamoDB), 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 **Angular** web app

**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 - distributed via **Artifactory**

## 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, Professional Data Engineer, Associate Cloud Engineer

### The Linux Foundation

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

### Databricks

AWS Platform Architect, Azure Platform Architect, Data Engineer Associate, 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; Payara), 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, Functions, 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