

Pratyush Mulpuru

Senior Software Engineer

Apex, NC, United States | [LinkedIn](#) | [GitHub](#)

Senior Software Engineer with 14+ years building cloud-native distributed systems and backend platforms. Recently focused on GenAI and agentic AI applications using AWS Bedrock.

EXPERIENCE

Independent Contractor Self Employed Architected Python-based backend services and REST APIs for event registration, attendee management, and workflow automation. Built ReactJS administrative dashboards and user-facing interfaces. Automated deployments using Ansible and implemented CI/CD practices with Git.	Feb 2025 — Present <i>Apex, NC</i>
Senior Software Engineer Itron, Inc. Automated application and platform deployments using Jenkins and Ansible, reducing release cycles by 50%. Built monitoring infrastructure with Nagios and Splunk (15+ dashboards), improving issue detection by 60% and reducing incident response time by 80%. Designed Django application for monitoring configuration across on-premises environments. Implemented Kubernetes deployments with Helm and GitOps workflows using ArgoCD.	May 2023 — Oct 2024 <i>Raleigh, North Carolina, United States</i>
Senior Software & Automation Developer NetApp Inc Re-architected CI/CD pipelines, reducing deployment failures by 90% and cutting release cycles from 8 hours to 30 minutes. Designed asynchronous Python microservices using FastAPI to orchestrate VMware/OpenStack workflows. Architected Kubernetes/OpenShift microservices for horizontal scalability. Designed serverless AWS workflows for multi-step VM lifecycle orchestration. Implemented Infrastructure-as-Code using Terraform and developed data pipelines with Airflow and PySpark for multi-cloud billing analytics.	Jan 2020 — May 2023 <i>Morrisville, NC, United States</i>
Senior Software Engineer Cisco Systems Designed and implemented Spring Boot microservices and REST APIs for provisioning users and devices in Cisco Unified Communications Manager and Unity Connection. Created extensible monitoring framework using Spring Actuator and AOP exposing 25+ metrics across 20+ microservices. Increased call handling capacity 3x on Cisco Expressway by enhancing C++ routing logic. Developed Python microservices for SIP log parsing and anomaly detection with ELK integration. Implemented JMS messaging services with ActiveMQ for reliable inter-service communication.	Sep 2011 — Feb 2019 <i>Morrisville, NC, United States</i>
Software Engineer Cisco Hosted Collaboration Solution Fulfillment (HCS-F)	Sep 2011 — Feb 2013 <i>Raleigh-Durham-Chapel Hill Area</i>
Application Systems Engineer Wells Fargo Developed web UI features using HTML, CSS, JavaScript/jQuery, JSP, and AJAX-based pagination. Created database triggers and stored procedures to support auditing and reporting processes.	Jun 2010 — Aug 2011 <i>Charlotte Metro</i>
Application Developer Verizon	Apr 2010 — May 2010 <i>Silver Spring, Maryland Area</i>
Java Developer LiveItSolutions	Mar 2008 — Dec 2009

EDUCATION

Governors State University <i>Masters in Computer Science</i>	Sep 2005 — Jun 2007
Jawaharlal Nehru Technological University <i>Bachelor of Technology (BTech) in Computer Science</i>	Sep 2002 — Jun 2006

PROJECTS

Data pipelines with vector search and LLM-based question answering, Python/PySpark Data and RAG Platform Built a comprehensive platform integrating data pipelines, vector search, and LLM-based question answering capabilities. Combines PySpark for data processing with FastAPI for API services and leverages retrieval-augmented generation for intelligent responses.
--

Conversational AI interface for event discovery and registration workflows, AI-Powered Event Registration Platform
Designing an AI-powered event registration experience enabling users to interact conversationally with the platform.
Building the backend using Python and AWS Bedrock/AgentCore with MCP-based tool interactions connecting the LLM to event, attendee, and registration APIs. Implementing agentic AI patterns, authentication/authorization, guardrails, observability, and evaluation for production-ready AI workflows.

CERTIFICATIONS

AI Governance on AWS , BeSA Cloud Academy	Sep 2026
Agentic AI - POC to Production on AWS , BeSA Cloud Academy	Sep 2026
Agentic AI Evaluation and Observability , BeSA Cloud Academy	Sep 2026
Building Agentic AI on Amazon EKS , DataExpert.io	Sep 2026
Building Agentic AI with AWS Serverless , DataExpert.io	Sep 2026
Design Authentication, Authorization and Logging , DataExpert.io	Sep 2026
Microsoft Certified: Azure Fundamentals , Microsoft	Sep 2026
Anatomy of an AI Agent , DataExpert.io	Aug 2026
AI Skills Fest 2026 , Microsoft	Jun 2026

SKILLS

Agent to Agent Communication · Generative AI · Agentic AI Development · Model Context Protocol (MCP) · Amazon Bedrock · Amazon CloudWatch · AWS Security Hub · AI Evaluation · AWS Service Control Policies · AWS Identity and Access Management (AWS IAM) · AI Observability · OpenTelemetry · AWS Config · AWS CloudTrail · AI Governance · AI Agent Security · Amazon Bedrock Guardrails · Authorization · Amazon Bedrock AgentCore Policy · Cloud Security · Amazon Cognito · Cedar Policy · Amazon Bedrock AgentCore Identity · Identity and Access Management (IAM) · Prompt Engineering · AI Tools Adoption · AI Ethics · Applied AI · GitHub Copilot · Multi-agent Systems · Langfuse · Amazon EKS · Azure Cloud Governance · Microsoft Azure · Azure Cost Management · Azure Cloud Services · Azure Cloud Computing · Amazon SQS · Strands Agents · Amazon EventBridge · Amazon Bedrock AgentCore · Pandas · Poetry · FastAPI · Retrieval-Augmented Generation (RAG) · Large Language Models (LLM) · FAISS · LocalStack · Amazon S3 · Extract, Transform, Load (ETL) · Python · Django · SQL · Bash · SQLAlchemy · Pytest · AWS Lambda · AWS Step Functions · AWS API Gateway · AWS DynamoDB · AWS SNS · AWS CloudFormation · Docker · Kubernetes · Jenkins · GitHub · GitLab · Azure DevOps · Ansible · Terraform · Helm · ArgoCD · Git · Splunk · Nagios · MySQL · Data Engineering · Security · Network Protocols · Java · Spring Boot · HTML · CSS · JavaScript ES6 · ReactJS · VS Code · PyCharm · AWS Bedrock · Claude