Vivek Gopakumar

Google Cloud Engineering Lead | Lead Data Engineer | Generative AI Engineering | Claude Certified Developer
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Professional Summary

Results-driven Google Cloud Engineering Lead with 12+ years in software development and 7+ years architecting and leading scalable GCP data platforms. Over the past six months, designed and developed an AI-driven SDLC framework using specification-driven Generative AI and intelligent agents to analyse requirements, generate Jira stories, and produce code aligned with organisational standards, reducing development effort by more than 70%. Proven expertise in petabyte-scale GCP platforms, Terraform, DevOps/CI/CD, cloud governance, cost optimisation, and cross-functional engineering leadership. Google Cloud Certified Professional Data Engineer and Generative AI Leader.

Certifications

- Google Cloud Generative AI Leader - Sep 2025
- Google Cloud Professional Data Engineer - Jun 2024
- Google Cloud Professional Cloud Developer - Mar 2019
- Claude Certified Developer Foundations October 2026

Core Competencies

- Generative AI & Agentic SDLC: Specification-driven Generative AI, intelligent agent development, automated requirements analysis, Jira story generation, standards-aligned code generation, and AI-assisted engineering workflows
- GCP Implementation & Operations: BigQuery, Dataflow, Cloud Composer (Airflow), Cloud Functions, Pub/Sub, GCS, Dataproc, Bigtable — deploying, configuring, and operating services at petabyte scale
- Infrastructure as Code (Terraform): Expert-level Terraform modules for complex GCP environments; state management and CI/CD integration across all deployment environments
- DevOps & CI/CD: Automated provisioning, testing, and deployment pipelines for cloud infrastructure; Git, Jenkins, and CI/CD pipeline management
- Cloud Security & Governance: Data Mesh, Data Lineage, IAM, cost optimisation, observability, and compliance across 20+ governed data pipelines
- Team Leadership & Agile Delivery: Leading cross-functional engineering teams, mentoring engineers, VP-level stakeholder engagement, and Agile/Scrum delivery
- Programming: SQL (GoogleSQL/T-SQL), Python, Java, Scala

Professional Experience

UST Global — Specialist 1, Software Engineering (Lead Data Engineer / Google Cloud Engineering Lead)
Sep 2021 – Present | Leeds, UK

GCP Platform Architecture & IaC

AI-Driven SDLC & Specification-Driven Generative AI

- Designed and developed an enterprise AI-driven SDLC framework over the past six months, applying specification-driven Generative AI to streamline software delivery.
- Created intelligent agents to analyse business and technical requirements and generate structured Jira user stories.
- Developed AI agents that generate code from specifications while adhering to organisational coding standards and engineering guidelines.
- Reduced development effort by more than 70% through automation of requirements analysis, Jira story creation, and code generation.
- Designed and owned a robust GCP landing zone architecture, including IAM governance, resource hierarchy, networking, and multi-environment deployment standards supporting 20+ applications.
- Developed and evangelised reusable, modular Terraform code to standardise the provisioning of Spark workloads on GCP Dataproc clusters across all environments — implementing state management and CI/CD integration for consistent, auditable deployments.

- Defined an AI-first SDLC approach and established platform-wide engineering standards, including a Kubernetes-based microservices deployment platform for internal tools and high-volume data ingestion.
- Architected a configurable Dataflow orchestration framework using YAML, significantly reducing deployment effort and enabling rapid scaling by engineering teams.

DevOps, CI/CD & Automation

- Established a scalable, event-driven ingestion architecture with 30+ Cloud Functions, provisioning and governing 20+ GCS buckets with optimised tiered storage strategies.
- Oversaw 20+ internal/external application workflows via Cloud Composer (Airflow), ensuring reliable scheduled data delivery through governed, automated CI/CD pipelines.
- Directed petabyte-scale dataset comparison and validation utilities to ensure data integrity during major platform migrations.

Cloud Security, Governance & Risk Management

- Initiated and executed platform optimisation strategies, reducing operational compute and storage costs by over 70% through targeted architecture improvements and right-sizing.
- Established and enforced data governance standards including comprehensive data lineage documentation across 20+ pipelines, strengthening audits, observability, and compliance.
- Drove adoption of dbt Cloud for SQL transformation layers, improving development consistency, code quality, and team efficiency.

Team Leadership & Stakeholder Engagement

- Led and mentored a cross-functional team of engineers, defining roles, guiding technical direction, and fostering a culture of code quality and knowledge sharing through structured code reviews and pair programming.
- Spearheaded delivery of 10+ high-impact Looker dashboards, enabling self-serve analytics capabilities and implementing governed Data Mesh access for data consumers.
- Mentored team members in authoring 50+ BigQuery materialised views and complex SQL logic to power enterprise-wide reporting, ensuring maintainable and scalable code standards.
- Advised senior stakeholders and functional leadership on platform strategy, cross-functional alignment, and risk management — contributing to long-term budget and technology planning.
- Led a ~90% increase in data throughput for critical business functions through Apache Beam pipeline development and Dataflow optimisation.

UST Global — Lead 2, Software Engineering

Mar 2018 – Sep 2021 | Leeds, UK

- Led development of data warehouse solutions for a major credit bureau using Apache Beam and BigQuery on GCP-based architectures.
- Contributed to data pipeline modernisation using Java and Python, applying Agile delivery practices and cross-functional collaboration.

UST Global — Lead 1, Software Engineering

Oct 2015 – Mar 2018 | Leeds, UK

- Built backend services and analytics tools using Java, Angular, and .NET, forming the foundation for full-stack data product delivery.

Education

B.Tech, Information Technology — Cochin University of Science and Technology, May 2013

Technical Skills

GCP · BigQuery · Dataflow · Apache Beam · Apache Spark · Dataproc · Bigtable · Pub/Sub · Cloud Composer (Airflow) · Cloud Functions · Terraform · IaC · GitLab · CI/CD · Kubernetes · dbt Cloud · Looker · Tableau · Power BI · SQL · Python · Java · Scala · Data Mesh · Data Lineage · Cost Optimisation · ETL/ELT · Data Warehouse · Observability · IAM · Cloud Security · Agile · Scrum · Generative AI · Agentic AI · AI-Driven SDLC · Specification-Driven Development · AI Agents · Requirements Analysis · Jira Story Generation · AI Code Generation · Claude Certified Developer Foundations October 2026