

Preeti Boddeti  
Full stack Software Engineer  
Google Cloud Solutions Architect

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## Professional Summary

- Designed and developed scalable Python-based backend systems using FastAPI and Node.js, delivering high-performance RESTful APIs and microservices architectures for cloud-native applications.
- Architected and deployed AI-driven applications integrating Large Language Models (LLMs) including OpenAI and Gemini, implementing API-based model integrations, tokenization strategies, prompt engineering workflows, and AI Agents for intelligent automation and conversational systems.
- Leveraged Hugging Face models and transformer-based architectures for NLP use cases, experimentation, and AI-powered feature development.
- Built and optimized AI-enabled backend services supporting real-time inference, asynchronous processing, and scalable AI workloads on Google Cloud Platform.
- Designed and implemented Google Cloud architectures using Cloud Run, App Engine, Compute Engine, Cloud Functions, Cloud Storage, IAM, VPC, and load balancing services.
- Leveraged Google Cloud AI and Data services including Vertex AI, BigQuery, Cloud Storage, and AI APIs to build intelligent, data-driven applications.
- Designed and implemented Big Data processing pipelines and data lake architectures on Google Cloud using Cloud Storage and BigQuery for large-scale analytics.
- Developed data warehousing solutions leveraging BigQuery for complex analytical queries, performance optimization, and cost-efficient data processing.
- Contributed to modern data architecture strategies including Data Lake and Lakehouse patterns, integrating structured and unstructured datasets for AI and analytics workloads, with familiarity in Apache Iceberg table formats.
- Led application and infrastructure migrations to Google Cloud Platform (GCP), modernizing legacy systems into containerized, cloud-native, and AI-enabled architectures.
- Implemented containerized deployments using Docker and established automated CI/CD pipelines using Jenkins to support continuous integration and cloud releases.
- Developed secure authentication and authorization systems using JWT, OAuth 2.0, and IAM-based access controls across cloud environments.
- Deployed and managed production-grade applications on GCP ensuring high availability, scalability, monitoring, and cost optimization.

- Architected React.js-based frontend applications integrated with Python and AI backends to deliver intelligent end-to-end full stack solutions.
- Built backend orchestration services supporting AI-powered conversational interfaces, automation tools, and LLM-based workflow agents.
- Collaborated with stakeholders to translate business requirements into scalable cloud, AI, and data architecture solutions.
- Demonstrated strong troubleshooting, debugging, and performance optimization skills across Python services, AI pipelines, Big Data systems, and Google Cloud infrastructure.

## Tools and Technology Skills

- **Languages:** Python, JavaScript, TypeScript, Java
- **Frontend:** React, Redux, Angular, HTML5, CSS3, Bootstrap, PrimeNG, PrimeReact
- **Backend:** Node.js, Express.js, FastAPI, REST, Microservices
- **AI/LLM:** OpenAI, Gemini, Hugging Face, LLMs, Tokenization, Prompt Engineering, AI Agents
- **Cloud:** GCP, AWS, Cloud Run, Compute Engine, Cloud Functions, BigQuery, Vertex AI, IAM, VPC
- **DevOps & CI/CD:** Docker, Jenkins, GitHub Actions, Azure DevOps, Linux
- **Data & Analytics:** BigQuery, Data Lake, Data Warehousing, Apache Iceberg, Lakehouse, Big Data
- **Databases:** PostgreSQL, MySQL, SQL Server, SQL, PL/SQL
- **Security:** JWT, OAuth 2.0, Passport.js, SSO, RBAC, IAM
- **API & Tools:** Swagger, OpenAPI, Postman, Microsoft Graph Explorer
- **Version Control:** Git, GitHub, GitLab, Google Source Repositories
- **Servers & Runtime:** Node.js, Apache, Apache Tomcat
- **OS:** Linux, Ubuntu, macOS, Windows
- **IDE & Tools:** VS Code, WebStorm, IntelliJ, Cursor
- **Design:** Figma, Adobe XD, Adobe Express
- **Methodologies:** Agile, Scrum, JIRA, Rally

## Education

Undergraduate in Computer Science

Gayatri Vidya Parishad University

June 2014 - April 2018

## Certifications

Google Cloud Certified Associate Engineer  
[Credentials Link](#) | July 2024 - July 2027

Google Cloud Professional Cloud Architect  
[Credentials Link](#) | July 2025 – July 2027

## Projects & Work Experience

**Miracle Software Systems, Inc.**  
**Cloud / AI Software Engineer** | Nov 2024 – Present

### **Description:**

Enterprise-grade Cloud Migration and AI Modernization Platform built on Google Cloud Platform (GCP) to enable real-time migration of legacy on-premises systems to scalable, cloud-native, AI-powered architectures.

The solution integrates Google Cloud AI/ML services, BigQuery analytics, and LLM-based intelligence engines to assess workloads, recommend migration strategies, automate provisioning, and provide cost and performance optimization insights. Actively engaged with enterprise clients to design and execute secure On-Prem to GCP migration strategies and modernization roadmaps.

### **Responsibilities:**

- Designed and implemented secure, scalable cloud-native architectures on Google Cloud Platform using Compute Engine, Cloud Run, Cloud Functions, Cloud Storage, Cloud SQL, VPC, IAM, and Kubernetes Engine (GKE).
- Collaborated directly with enterprise clients to assess legacy on-premises infrastructure and define migration strategies for seamless transition to GCP-based environments.
- Led On-Prem to Google Cloud migration initiatives including application re-architecture, containerization, infrastructure modernization, and cloud-native redesign.
- Developed Python and FastAPI-based backend services to orchestrate migration workflows, infrastructure provisioning, and real-time workload assessment.
- Built AI-driven workload analysis and recommendation engines using Vertex AI, BigQuery ML, and LLM integrations (OpenAI and Gemini) to generate intelligent migration insights.
- Designed BigQuery-based data analytics pipelines to process infrastructure metadata, usage patterns, and cost metrics for cloud optimization and reporting.

- Implemented LLM-based use cases leveraging OpenAI and Gemini APIs for automated documentation analysis, migration script generation, cost forecasting, and intelligent advisory systems.
- Applied tokenization strategies and prompt engineering techniques to enhance AI output quality and contextual recommendations.
- Developed AI Agents to automate migration assessment tasks, infrastructure validation, and optimization workflows.
- Designed and implemented Data Lake and data warehousing architectures using Cloud Storage and BigQuery to support analytics and AI workloads.
- Integrated Google Cloud Operations Suite (Cloud Monitoring and Cloud Logging) for observability, performance tracking, and reliability engineering.
- Implemented secure authentication and authorization using IAM, OAuth 2.0, and role-based access control (RBAC) for enterprise-grade security.
- Developed interactive React.js dashboards to visualize migration progress, cost analysis, AI-driven recommendations, system health metrics, and performance insights.
- Implemented advanced state management using React Hooks and Redux to manage complex migration lifecycle states and real-time updates.
- Automated CI/CD pipelines using GitHub Actions and Google Cloud Build for multi-environment deployments.
- Optimized cloud resource utilization using AI-driven cost intelligence, autoscaling strategies, and performance tuning mechanisms.
- Actively participated in architecture discussions, client technical workshops, and solution design reviews to align cloud and AI strategies with business objectives.

**Environment:**

Google Cloud Platform (GCP), Vertex AI, BigQuery, BigQuery ML, Cloud Run, Cloud Functions, Compute Engine, GKE (Kubernetes), Cloud Storage, IAM, VPC, FastAPI, Python, Node.js, React.js, Redux, OpenAI API, Gemini API, OAuth 2.0, GitHub, Google Cloud Build, HTML5, CSS3.

**Alter Learning, Inc**

**Full Stack Software Engineer** | Jan 2024 – Nov 2024

**Description:**

Developed a full stack educational technology platform built with React.js and Node.js, delivering immersive learning experiences using AR/VR-enabled web graphics. The platform supports course enrollment, interactive 3D content rendering, real-time session management, and secure user authentication workflows for online curriculum delivery.

**Responsibilities:**

- Designed and implemented secure user authentication and authorization using Node.js, Passport.js, OAuth 2.0, and role-based access control mechanisms.

- Built scalable RESTful APIs using Node.js and Express.js to manage user sessions, course enrollment, progress tracking, and content delivery workflows.
- Developed interactive frontend modules using React.js with advanced state management patterns including Hooks (useState, useEffect, useContext, useReducer, useMemo, useCallback) and Redux.
- Implemented Higher Order Components (HOC) and custom hooks to enforce authentication guards and reusable component logic across protected routes.
- Architected optimized React component hierarchies to ensure minimal re-renders and efficient state updates.
- Rendered AR/VR-enabled 3D models using JavaScript WebGL-based libraries within React applications for immersive educational experiences.
- Designed reusable, modular UI components based on Figma design systems, ensuring scalability and consistent UI/UX standards.
- Configured advanced routing strategies using React Router for multi-level navigation, protected routes, and dynamic content rendering.
- Implemented complex reducer logic and managed centralized application state trees for predictable state transitions.
- Integrated frontend services with backend APIs for real-time data exchange and course lifecycle management.
- Utilized PrimeReact UI components to build enterprise-grade form handling systems, dynamic multi-step workflows, pagination, and responsive interfaces.
- Applied performance optimization techniques including memorization, lazy loading, and efficient event handling for improved application responsiveness.
- Collaborated using GitHub workflows including branching strategies, pull requests, merge reviews, and version control best practices in Agile sprint cycles.

**Environment:**

React.js, Redux, Node.js, Express.js, Passport.js, OAuth 2.0, WebGL, JavaScript (ES6+), HTML5, CSS3, PrimeReact, GitHub, REST APIs.

**Independent Learning/ Caregiving Sabbatical**

**Personality & Software Development** || [Dec 2021 – Oct 2023]

**AI based Product implementation:** AI-Powered Client Experience and Sentiment Intelligence Platform for Photography and Media Production

**Description:**

Designed and developed a real-time AI-powered client feedback and engagement platform for a professional photography and digital media business in the entertainment industry. The system is built as a monorepo architecture combining a Python (FastAPI) backend and a React.js frontend, enabling structured client feedback collection, AI-driven sentiment analysis, automated follow-ups, and performance analytics. The platform enhances client experience,

brand reputation monitoring, and service quality optimization for event-based photography and media production services.

### **Responsibilities:**

- Architected a monorepo-based full stack application integrating Python (FastAPI) backend services with a React.js frontend for unified development and deployment workflows.
- Designed a multi-step client experience workflow capturing event host feedback across service quality, media delivery, photographer professionalism, and social media engagement.
- Developed scalable RESTful APIs using FastAPI to manage feedback submissions, client metadata, event tracking, and media performance metrics.
- Integrated Large Language Models (OpenAI and Gemini APIs) to perform AI-based sentiment analysis, feedback summarization, and automated service quality scoring.
- Implemented tokenization and prompt engineering strategies to classify qualitative client feedback into actionable performance insights.
- Built AI-driven recommendation logic to suggest personalized follow-up actions, client retention strategies, and reputation management improvements.
- Designed real-time dashboards using React.js to visualize customer satisfaction trends, sentiment distribution, photographer performance metrics, and engagement analytics.
- Implemented advanced state management using React Hooks and Context API to support dynamic multi-tab workflows with smooth UI transitions.
- Developed secure authentication and role-based access control to differentiate admin, photographer, and client views.
- Structured data storage and analytics pipelines to support performance tracking, service rating aggregation, and business intelligence reporting.
- Deployed the application in a real-time production environment with containerized services and scalable backend architecture.
- Enabled automated email and notification workflows triggered by AI-evaluated client satisfaction thresholds.
- Designed the platform to support growth into a full SaaS solution for entertainment and media service providers.

### **Environment:**

Python, FastAPI, React.js, JavaScript (ES6+), OpenAI API, Gemini API, LLM Integration, Prompt Engineering, REST APIs, Docker, HTML5, CSS3, GitHub, Cloud Deployment.

### **Tata Consultancy Services (TCS)**

**Full Stack Software Engineer** | June 2018 – Nov 2021

### **Description:**

Developed and delivered enterprise-grade web applications using the Mendix low-code Java platform and traditional full stack technologies. Designed scalable, high-availability solutions

deployed on AWS, implementing automated workflows, user-centric interfaces, and optimized data management. Collaborated in Agile teams with Test-Driven Development (TDD) practices to deliver robust business solutions.

**Responsibilities:**

- Designed and developed full stack web applications using HTML5, CSS3, JavaScript, AngularJS, and Mendix low-code components to deliver responsive and intuitive user interfaces.
- Built and optimized business workflows and UI components using Mendix flows, ensuring seamless data handling and user experience aligned with client requirements.
- Deployed and managed cloud applications on AWS with high availability using EC2, Auto Scaling, Load Balancers, S3, and RDS.
- Configured scalable backend architectures and automated deployment processes across multiple environments to ensure reliable production releases.
- Participated in pair programming and Test-Driven Development (TDD) to maintain high code quality and improve team productivity.
- Collaborated in Agile teams, contributing to sprint planning, daily stand-ups, and iterative delivery of features.
- Ensured adherence to enterprise security and data access standards while managing application integrations and cloud resources.

**Environment:**

Mendix Low-Code Platform, HTML5, CSS3, JavaScript, AngularJS, Amazon Web Services (EC2, S3, RDS, Auto Scaling, Load Balancing), Agile, TDD