

# PRANITHA POTHUGUNTLA

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Software Developer and Data Analyst with hands-on experience in designing, developing, and deploying scalable applications, APIs, and cloud-native solutions. Skilled in Java, Python, JavaScript, SQL, and full-stack development, with exposure to Azure, AWS, and GCP. Strong background in API development, DevOps pipelines (CI/CD), test automation, and cloud migration. Adept at working in Agile Scrum teams, integrating secure, high-performance applications, and continuously improving product quality. Looking to contribute technical expertise and problem-solving skills to innovative projects.

## SKILLS

Programming Languages: Java, Springboot, Python, HTML, CSS, JavaScript, Typescript, PHP, NodeJS, SQL, WordPress

Frameworks & Libraries: Pandas, Numpy, Matplotlib, Seaborn, Sci-kit-learn, PyTorch, Spacy, NLP, OpenCV, Hadoop, Bootstrap, JQuery

Cloud & Data Platforms: Google Cloud Platform (BigQuery, Cloud Composer, Cloud Storage, Vertex AI), AWS (S3, EC2, Lambda), PostgreSQL, MySQL

Project Management: Agile, Scrum

DevOps & Tools: GitHub Actions, CI/CD, Postman, Docker, Linux, WHM, Replit, Eclipse, VSCode, Microsoft Copilot

Data & Visualization: Power BI, Tableau, Google Data Studio, Jupyter Notebook, Microsoft Excel

Project & Workflow Management: Agile, Scrum, Jira, Confluence

## WORK EXPERIENCE

### Software Developer | RTNextGenAI

May 2024 – Present

#### Scalable Cloud-Native API Infrastructure with Cursor AI on GCP

- Designed, developed, and deployed API services on GCP using RESTful and GraphQL standards, ensuring secure data exchange, modular design, and high system availability.
- Built backend services with Python/Flask, leveraging PostgreSQL for secure storage, optimized indexing, bulk inserts, and high query performance.
- Developed and integrated APIs with GraphQL (Apollo Server) to enable efficient communication between backend and frontend systems, streamlining queries, mutations, and bulk data processing to reduce latency.
- Built full-stack web applications with TypeScript (frontend) and Flask (backend), developing responsive UIs and RESTful APIs for smooth client-server communication.
- Implemented JWT-based authentication to secure endpoints, protecting sensitive operations and customer data.
- Automated data ingestion pipelines using Python, cURL, and HTTP requests, performing data validation, transformation, and cleaning before database loading to ensure consistency and integrity.
- Applied data analysis techniques to optimize API performance, query efficiency, and bulk data processing pipelines.
- Leveraged Pandas, NumPy, and SQL for data modeling, aggregation, and reporting to support analytics-driven decisions within applications.
- Integrated Stripe API for secure, real-time payment processing, managing webhook events for transaction updates.
- Applied test automation frameworks, validated APIs with Postman and Swagger/OpenAPI, and optimized calls with pagination, caching, and error handling, reducing server load and response times.
- Implemented unit and integration testing (JUnit, Maven, Selenium) to ensure system reliability and support continuous delivery.
- Implemented CI/CD workflows with GitHub Actions, automating build, testing, and deployment to improve release frequency and reduce defects.
- Migrated workflows into Dockerized environments and deployed apps in Replit, enabling scalable deployments, collaborative debugging, and production-like testing.
- Designed for cloud scalability, uptime, and monitoring, ensuring rapid triage and resolution of production issues with a production-first mindset.
- Leveraged Cursor AI for debugging, code reviews, and collaborative API development, improving team productivity and code quality.
- Participated in Agile Scrum ceremonies (standups, sprint planning, retrospectives), actively contributing to swarming and sprint velocity improvements.
- Conducted peer reviews, enforced secure coding practices, and promoted continuous learning to raise overall product quality.
- Collaborated cross-functionally to support cloud migration initiatives and data-driven product enhancements, improving deployment efficiency and aligning with enterprise modernization goals.

### Senior Software Developer | Multiplier AI Solutions

Oct 2020 – Dec 2022

#### Web Development for Healthcare and Pharma Clients

- Collaborated closely with the marketing team to design, troubleshoot, and optimize 100+ web pages, delivering cross-platform, feature-rich user experiences.
- Led end-to-end development of web applications using HTML, CSS, React.js, Bootstrap, JavaScript, JSON, PHP, and WordPress, resulting in a 30% performance improvement and a 20% reduction in page load times.
- Developed custom WordPress themes and plugins, enhancing functionality and user experience for healthcare clients.
- Built responsive and reusable UI components with React Hooks, ensuring efficient state management and smooth component lifecycle handling.
- Integrated RESTful APIs and led backend integrations to enable real-time data flow across multi-cloud environments for dynamic, scalable web applications.

- Implemented server-side logic using Node.js to support React.js front ends and streamline backend processes.
- Developed automated workflows for email and WhatsApp-based notifications using Python, tailored for healthcare and pharma clients, which enhanced outreach personalization and campaign efficiency.
- Conducted robust API testing using Postman and implemented transactional email flows via the Mailgun API, with detailed QA reports submitted monthly.
- Spearheaded automation and payment gateway integrations for two high-impact projects, significantly reducing manual processes and enhancing system efficiency.
- Enhanced SEO performance by 25% and increased user engagement by 40% through advanced server-side rendering, optimized routing, and strategic use of Google Analytics and Google Tag Manager.
- Collaborated with five developers to implement new features, decrease bug rates by 40%, and boost customer satisfaction by 25%.
- Managed hosting and deployment for 15+ domains on GoDaddy, handled DNS modifications, and transitioned WordPress sites to production using PHPMyAdmin and WHM.

#### **Software Developer Executive**

- Modern JavaScript (ES6+) was used to develop clean, modular, and maintainable codebases, significantly reducing technical debt and enhancing code readability.
- Developed and deployed dynamic, real-time dashboards using React.js, seamlessly integrating with backend systems to deliver responsive data visualizations.
- Engineered custom chatbots using TypeScript, tailored to client-specific needs, driving lead generation and enhancing customer support efficiency.
- Managed Vtiger CRM user accounts, streamlining administrative workflows and reducing operational overhead by 25%, while strengthening data security protocols.
- Enhanced website performance by optimizing assets and scripts, resulting in a 40% decrease in page load times and a 20% increase in average session duration.

#### **Innovidu Technologies**

Aug 2020 – Sept 2020

- Designed and developed a full-stack web application for managing customer profiles, transactions, and retention activities using TypeScript (frontend) and Flask/Python (backend).
- Built RESTful API endpoints to handle CRUD operations for customer data, transaction histories, and account status updates.
- Integrated PostgreSQL for secure data storage, optimizing queries and indexing for faster API response times.
- Implemented authentication and authorization using JWT to protect sensitive endpoints and ensure role-based access control.
- Developed API logic to fetch and process customer activity data from third-party services using HTTP requests and cURL, enabling up-to-date profile enrichment.
- Created a responsive, user-friendly frontend with interactive forms, tables, and filters to allow real-time customer data search and updates.
- Connected APIs to a Power BI dashboard for dynamic visualization of customer engagement metrics, enabling data-driven decision-making.
- Deployed the application on a cloud-based environment, ensuring scalability, security, and continuous availability.
- Delivered a solution that improved operational efficiency by streamlining customer account management and reducing manual update time by 40%.

#### **CERTIFICATIONS**

- Certified in Python for Data Science - Cognitive class
- Certified in Frontend fundamentals - Udemy, Pirple
- Certified in Python for Data Science - NPTEL
- Certified What is Data Science? - Coursera
- Artificial Intelligence Workshop - ETHICAL EDU FABRICA PVT. LTD.
- Certified Career-Edge Knockdown the Lockdown - TCS iON
- LAUNCHPAD '20 ( E-SUMMIT) - BITS Pilani

#### **PROJECTS**

##### **Data Visualization of Weather, Agriculture, and Crop Yields**

- Conducted multi-source data analysis using datasets from ICRISAT, Indian Weather Repository, and crop yield statistics, focusing on correlations between weather variability and agricultural output.
- Performed data cleaning, transformation, and integration by aligning schemas and establishing common keys across datasets, ensuring data consistency and accuracy.
- Designed interactive dashboards in Google Data Studio, Power BI, and D3.js (VizHub) to visualize rainfall patterns, pesticide/fertilizer usage, and crop yield trends over multiple years.
- Applied statistical correlation analysis and time-series modeling to uncover the relationship between temperature, rainfall, and agricultural productivity.
- Enabled comparative crop analysis across regions, supporting agricultural policymakers with actionable insights for seasonal crop planning and resource allocation.
- Delivered visual reports that identified optimal sowing windows, highlighting the importance of balanced pesticide/fertilizer usage for yield maximization.

##### **Movie Recommendation System Using NLP Techniques**

- Built a personalized movie recommendation system by analyzing large datasets from TMDB and IMDB, incorporating user reviews, metadata, and ratings.
- Utilized Python, Pandas, NumPy, and NLP libraries (TextBlob, NLTK, Beautiful Soup) to preprocess raw datasets, clean

- HTML tags, normalize text, and perform sentiment analysis.
- Developed content-based filtering models leveraging TF-IDF vectorization and cosine similarity for matching user preferences with movie metadata.
- Implemented collaborative filtering techniques (user-user and item-item) and hybrid models to enhance personalization and recommendation diversity.
- Integrated sentiment scores into the recommendation pipeline, improving the relevance of suggested movies by considering audience feedback.
- Conducted exploratory data analysis (EDA) on genres, popularity scores, and review sentiments to enhance model features, resulting in higher accuracy and better user satisfaction metrics.

**Enhancing Water Body Detection on Satellite Images**

- Designed a machine learning and image processing pipeline to accurately detect and segment water bodies from high-resolution satellite imagery.
- Applied image preprocessing techniques including Gaussian Blur, median smoothing, histogram equalization, and contrast stretching to improve water body visibility.
- Utilized HSV color space segmentation, Canny edge detection, and custom thresholding to distinguish water regions from land and vegetation.
- Integrated K-Means clustering for unsupervised pixel classification, tuning cluster sizes to optimize segmentation performance for varying water types.
- Trained and evaluated models using precision, recall, and F1-score, achieving precision up to 99.2% and recall up to 98.3%, ensuring highly accurate water mapping results.
- Automated processing workflows to handle large geospatial datasets, reducing manual mapping time by over 40%.
- Created visual comparison maps for before/after detection results, supporting environmental monitoring, flood risk assessment, and agricultural irrigation planning.

**EDUCATION**

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• University of North Texas	Texas, USA
Master's in Computer and Information Sciences	
• JBIET	Hyderabad, India
Bachelor of Technology - Information Technology	