# PRANITHA POTHUGUNTLA

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## 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

**Cloud AI Engineer | RTNextGenAI** May 2025 - Present

- Engineered **REST APIs** for AI-driven automation workflows and real-time data exchange between backend components.
- Built chatbot middleware services enabling conversational AI integrations across multiple channels
- Implemented secure authentication and authorization layers using OAuth2.0 and **JWT** for API access control.
- Integrated payment gateways for subscription-based AI service monetization.
- Developed and deployed serverless functions **(AWS Lambda / Cloud Functions)** for real-time data processing and automation.
- Created data ingestion and transformation pipelines to connect chatbot analytics with cloud storage (**BigQuery, DynamoDB).**
- Managed CI/CD pipelines for microservices using GitHub Actions and Dockerized deployments.
- Collaborated on cloud integration workflows connecting external APIs **(OpenAI, Vertex AI)** to enterprise systems.
- Ensured data privacy and compliance through encryption, environment isolation, and secure API gateway configurations.

**Software Developer | SiAnth Inc** May 2024 – May 2025

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

- Designed and implemented scalable backend services using **JavaScript, Python, and TypeScript**, focusing on performance, modular architecture, and cloud-ready deployment.
- Implemented **UI/UX** best practices including component reusability, intuitive navigation flows, accessibility standards (WCAG), and mobile-responsive layouts.
- Developed and maintained **RESTful & GraphQL APIs (Node.js / Apollo Server / Flask)** enabling seamless communication between distributed services and client applications.
- Designed optimized **PostgreSQL** schemas, indexing, and data relations to support high-performance querying and reliable data storage.
- Streamlined API queries and mutations to reduce latency and enhance microservice communication efficiency.
- Leveraged **GCP services** including BigQuery (analytics), Cloud Composer/Airflow (workflow orchestration), and Cloud Storage (scalable storage) to build robust backend infrastructure.
- Implemented **JWT-based authentication and role-based access control** to protect endpoints and user data.
- Integrated **Stripe API** to enable secure real-time payment processing within full-stack web solutions.
- Authored API documentation and validated endpoints using **Postman**, ensuring correctness, token security, and error handling.
- Deployed and tested applications on **Replit and GCP**, enabling collaborative development and streamlined CI/CD workflows.

**Senior Software Developer | Multiplier AI Solutions** July 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**.
- Applied **UI/UX** design principles to improve visual consistency, accessibility, and overall usability across healthcare and enterprise web applications.
- Led **end-to-end development** of **web applications** using **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**.

**Data Science with Python - Intern | Inmovidu Technologies** Aug 2020 – Sept 2020
- Built an end-to-end machine learning pipeline to predict customer churn using Python, pandas, scikit-learn, and SQL.
- Conducted data cleaning, exploratory data analysis (EDA), and feature engineering on historical customer behavior and transaction data.
- Developed and evaluated multiple classification models (Logistic Regression, Random Forest, XGBoost), achieving a model accuracy of **92%**.
- Implemented automated data pipelines using **Python scripts and scheduled tasks**, enabling regular updates and retraining.
- Visualized key churn indicators using **Matplotlib** and **Seaborn**, and created stakeholder-ready dashboards in **Power BI**.
- Delivered actionable insights that enabled the client to prioritize customer retention strategies, potentially reducing churn by **15–20%**.

## 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.
- 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.
- 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

- University of North Texas — Texas, USA
  Master's in Computer and Information Sciences
- J.B. Institute of Engineering and Technology — Hyderabad, India
  Bachelor of Technology - Information Technology