

# Vinay Danepalli

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Address: Corpus Christi, TX - 78412

## SUMMARY

- **Experienced Senior Software Engineer** with **4+ years** of expertise in **designing, developing, and deploying innovative technical solutions** for diverse business use cases, with a focus on **reliability, scalability, and performance optimization**.
- Proficient in programming (**Python, Java, C++**), data tools (**Microsoft SQL, Snowflake**), BI platforms (**PowerBI, Qlik, Looker**), and cloud services (**GCP, Azure, AWS**). Skilled in building resilient **data pipelines and machine learning workflows**.
- Expert in application and change management, delivering **result-driven** solutions through **cross-functional** collaboration.
- **Google-certified Data Engineer, Machine Learning Engineer, and Associate Cloud Engineer** with additional certifications in **IBM Data Science** and **NPTEL Machine Learning**, and more.
- Committed to delivering practical, high-quality solutions with **adaptability** to diverse **project needs** and **work environments**.

## EDUCATION

Purdue University, Fort Wayne, IN – USA | Master of Sciences in Computer Science | GPA: 3.8/4

Aug 2022 – Dec 2023

Vardhaman College of Engineering, India | B.Tech in Computer Science and Engineering | GPA: 8.33/10

Aug 2016 – May 2020

## SKILLS

**Programming:** Python, R, PySpark, Java, C++, JavaScript, C, Go, MATLAB, Octave, TypeScript, Scala, Bash, Shell Scripting.

**Data Tools and Big Data:** SQL, PostgreSQL, MongoDB (NoSQL), Airflow, SQLAlchemy, Apache Kafka, Hadoop, Cassandra, Redis.

**Data Science:** TensorFlow, Keras, Scikit-learn, Pandas, NumPy, SciPy, Matplotlib, Seaborn, PyTorch, OpenCV, NLTK, XGBoost, SpaCy.

**Cloud and DevOps:** AWS, GCP, Azure, Docker, Kubernetes, Jenkins, Ansible, Git, Bitbucket, GitLab, Prometheus, Grafana.

**GCP:** BigQuery, Dataflow, Pub/Sub, Vertex AI, Cloud Functions, Dataproc, Cloud Run, Cloud Composer, GKE, Stackdriver.

**Frameworks and APIs:** Django, Streamlit, RESTful APIs, FastAPI, Tableau, Qlik, Data Studio, Looker, GraphQL, Selenium WebDriver.

**Methodologies and Industry Knowledge:** TDD, OOP, CI/CD, LeSS, SAFe, Web Development, AIML, BI, Cybersecurity Awareness, MLOps, Data Governance, Data Engineering, Feature Engineering, Microservices Architecture, Agile, Scrum, Kanban.

**Soft Skills:** Problem Solving, Teamwork, Adaptability, Communication Skills, Attention to detail, Leadership, Time Management.

**Hobbies:** 3D-Printing, Competitive Programming.

## WORK EXPERIENCE

City of Corpus Christi | Software Development Engineer II (Business Intelligence Solutions) | Texas

Apr 2024 – Present

- **Engineered ETL pipelines to integrate Snowflake and legacy Firehouse databases** to migrate and consolidate 23 years of fire response data into city servers, enabling enhanced analytics and historical insights for data-driven decision-making.
- **Developed dynamic interactive dashboards** displaying **key performance indicators (KPIs)** like response times, and resource utilization, to support real-time decision-making for field management and optimize emergency resource allocation.
- **Automated scheduled report generation** with Python applications deployed in **Docker containers** on a **Linux Server**, supporting custom date-range reporting via **shared server configurations**.
- **Integrated Azure Graph API** to automate report delivery, ensuring seamless communication with zero manual intervention.
- **Built configurable reporting systems**, enabling non-technical personnel to modify parameters through server-based config files, improving adaptability and operational efficiency.
- **Developed a Next.js web application**, providing intuitive interfaces for non-technical users to access analytics and reports.
- **Created GIS-enabled web applications** supporting real-time tracking of hydrant inspections (reset annually) and geographic visualization of event data, improving resource management and operational efficiency.
- **Automated geospatial data quality checks with Python scripts**, resolving missing geographic coordinates in 50% of the records, resulting in improved data accuracy and reliability.
- **Integrated Govolution payment systems** into existing ERP platforms using **REST APIs**, streamlining financial transactions and enhancing user experiences.
- **Analyzed and automated detailed budget reports using Excel VBA and Python**, covering PCard expenditures, overtime, revenue, and other financial data, enabling data-driven fiscal planning and efficient resource allocation.
- Currently **exploring different machine learning models to forecast** daily and hourly emergency events (incidents).

Purdue University | Technical Lab Assistant (3D Printing Lab) | Fort Wayne, Indiana

Dec 2023 – Apr 2024

- Operated and maintained FDM (Ultimaker, Prusa) and SLA (Formlabs) 3D printers, troubleshooting hardware issues to ensure reliability and precision. Conducted regular calibration and maintenance of equipment.
- Optimized CAD designs using tools like Fusion 360 and SolidWorks, refining G-code for compatibility with slicing software and improving print and material efficiency. Assisted students with 3D printing, design files, and operating equipment.

**HSBC | Software Development Engineer II (SDE II, Cloud and Data Solutions) | Hyderabad, India****Apr 2021 – Aug 2022**

- Developed **python applications** for processing diverse data formats (**fixed-width, CSV, JSON, AVRO, Parquet, ORC**) in Cloud Storage and loading data into **Big Data Warehouse (BigQuery)** for **analytics**, implementing **SQL transformations** for ETL.
- Automated **Google Cloud Infrastructure** management using shell scripts to create and remove managed instance groups, leveraging **Pub/Sub** services for event-driven workflows – achieved a **99% reduction in manual effort**.
- Built and maintained resilient systems for ingesting, transforming, and delivering data to internal and external clients, ensuring adherence to **industry standards** and **data governance** best practices.
- Conducted **exploratory data analysis (EDA)** on large-scale datasets (**processing 30+ GB/day**) to uncover customer behaviour patterns and assisted machine learning teams with advanced querying, feature extraction, and data preparation.
- Delivered insightful **data visualization reports** using tools like **Looker, and Data Studio** for use by Business executives and IT partners leading to 40% faster decision making and improved operational efficiency.
- Partnered with business stakeholders and subject-matter experts to develop robust **data pipelines** aligned with Agile methodologies, ensuring scalability and reliability throughout the **data lifecycle** (acquisition to integration to consumption).
- **Mentored junior engineers**, sharing expertise in data engineering, integration, and automation. **Provided specialized Python application development training**, empowering senior staff, and enhancing team productivity and technical acumen.

**HSBC | Software Development Engineer (Big Data Solutions) | Hyderabad, India****Nov 2020 – Mar 2021**

- **Defined and finalized requirements** to design and implement integration proposals for seamless data ingestion into Big Data Warehouses, enabling advanced analytics and processing.
- **Engineered and automated batch/stream data pipelines** using **Juniper, Kafka, Apache Nifi, and Airflow**, ensuring adherence to **data security best practices, ETL design patterns, and secure coding principles**.
- **Developed and optimized high-performance, secure data pipelines**, delivering robust **ETL/ELT processes** and enabling cross-functional teams to utilize data for decision-making and operational efficiency.
- **Spearheaded the migration of 200+ on-premises data tables (10+ PB)** to the cloud with 100% accuracy, reducing migration time by 30% through collaboration with data scientists, solution leads, and architects.
- **Achieved 10% faster project delivery** by implementing efficient workflows exceeding client expectations, resulting in enhanced customer satisfaction.
- **Collaborated with business stakeholders** to design scalable data solutions, improving data accessibility, operational workflows, and enabling faster, data-driven decision-making.

**Planful, Inc. (Host Analytics) | Position: Software Development Engineer | Hyderabad, India****Sep 2019 – Nov 2020**

- Led **API development** for end-to-end Financial Planning and Analysis (FP&A) cloud software resulting in a **20% reduction in response time** and a **15% increase in overall system performance** contributing to robust and scalable solutions.
- Achieved **98% code coverage** through comprehensive functional unit testing using Selenium, significantly improving code quality and stability, ensuring high reliability, and minimizing post-release defects. **Identified and resolved bugs** promptly, reducing critical issues.
- Spearheaded **code refactoring initiatives**, leading to a **40% improvement in code maintainability** and a **25% reduction in technical debt**.
- Designed and developed a **responsive UI** for displaying large datasets, improving rendering speed by 40% and user satisfaction. Engineered **pop-up notification messages** for various actions, increasing user engagement by 15% and improving user interaction.
- Implemented **log analysis and dashboards** using Sumo Logic, resulting in **20% faster incident resolution** and improved system monitoring. Pioneered a **Proof of Concept for outlier detection**, resulting in identifying anomalies with 85% accuracy.
- Actively participated in **mentoring and training** other team members, contributing to improvement in team productivity. Demonstrated leadership skills by effectively coordinating with cross-functional teams, leading to **10% reduction in development cycles (SDLC)**.

**CERTIFICATIONS**

- **Google Certified Professional Data Engineer**
- **Google Certified Professional Machine Learning Engineer**
- **Google Certified Associate Cloud Engineer**
- **IBM Data Science Specialization Certification**
- **NPTEL Machine Learning Certification**