

Paluk Gupta

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EXPERIENCE

Software Engineer 2, AI Infra & Platforms

Apr. 2026 – Present

Dell

Singapore

- Automated Day 0/1/2 lifecycle operations (cluster bootstrapping, node provisioning, and rolling patch/upgrade orchestration) for Dell APEX Cloud Platform for Microsoft Azure, a hyperconverged infrastructure (HCI) private cloud on Azure Local.
- Designed and built microservices (Python/Go) exposing REST APIs behind the platform control plane, packaged as containers and orchestrated with Kubernetes across a large-scale distributed system.
- Engineered LLM-powered skill agents to orchestrate release validation and regression workflows end-to-end, replacing manual QA and cutting release turnaround.

Technology Transformation Associate

Aug. 2024 – Mar. 2026

Ernst & Young

Singapore

- Engineered scalable ETL/ELT pipelines (Python, SQL, Azure) automating ingestion, schema validation, normalization, and transformation of high-volume, multi-jurisdiction financial data from global SFTP sources into relational data models.
- Built LLM/GenAI classification models to automate tax-risk categorization of transactions, and delivered Power BI dashboards translating model outputs into compliance insights for cross-functional stakeholders and clients.

Data Science Student Researcher

Aug. 2023 – Apr. 2024

Rehabilitation Research Institute of Singapore (RRIS)

Singapore

- Developed and trained a CNN-based terrain classification model on 3D point cloud data for robotic prosthesis control, achieving around 95% classification accuracy across seven terrain types. [\[Link to the Project\]](#)
- Built a depth-map preprocessing pipeline (neural depth mapping, confidence filtering, region-based segmentation, Navier–Stokes inpainting) that improved classification accuracy by 23% on low-visibility and reflective surfaces.

Data Analytics and Simulation Engineer

Jan. 2023 – May 2023

Thales

Singapore

- Built a multi-threaded Python pipeline on Azure Data Lake to process CBTC telemetry logs, using Elasticsearch and Kibana for root-cause diagnostics. Developed a regression model that cut SMRT Green CBTC energy-consumption calculation errors to <3%
- Automated ATS subsystem workflows in C#/PowerShell, reducing operational downtime by 2 hours.

Data Science Intern

Sep. 2022 – Dec. 2022

Transcelestial Technologies

Singapore

- Built Python-based predictive satellite-scheduling software: ingested real-time Two-Line Element (TLE) data from the Celestrak API and applied SGP4 propagation to transform orbital state vectors into ground-relative visibility windows for line-of-sight forecasting.
- Developed a full-stack Streamlit geospatial interface with elevation-based scoring to optimize contact-window selection.

Android Developer

Dec. 2020 – Feb. 2021

TrueSign

Singapore

- Founding engineer of a blockchain-based e-signature platform; led Android development (Java/XML), building secure document signing, cryptographic hashing, and on-chain integrity and attestation verification via Ethereum smart contracts.

EDUCATION

Nanyang Technological University

Singapore

Bachelor of Engineering in Aerospace Engineering

Aug. 2020 – May 2024

LEADERSHIP EXPERIENCES

President

Aug. 2022 – Jul. 2023

Students for Exploration and Development of Space (SEDS), Singapore

Singapore

- Led an internationally recognized student club of 120+ members across NTU, NUS, and SUTD; represented SEDS in national space-policy discussions with OSTIn and A*STAR.
- Directed SEDS-Singapore's first AI-aerospace research project, a computer-vision pipeline detecting meteorological phenomena from high-altitude balloon data; led R&D teams such as the award-winning 2023 Spaceport America Cup rocketry team.

PROJECTS

Beehive | iOS & Android mobile app - [Link](#)

Dec. 2024 – Present

- Developed and published a Flutter-based mobile app for iOS and Android to connect students and alumni across 11 Singapore universities to discover and offer campus-wide opportunities. Scaled to 1000+ active users; available on Google Play and App Store.
- Implemented Firebase with secure authentication, push notifications, and location functionality, and enabling real-time user chat.

Sensync Mobile App | iOS & Android mobile app - [Link](#)

Mar. 2023 – May 2023

- Developed a cross-platform Flutter app integrated with Firebase, using the WESAD Dataset and a Random Forest classifier on Google Cloud Platform to predict sensory overload in individuals with ASD by analysing data from wearable devices.

Sentiment Analysis and Recommender System | [Link](#)

Aug. 2022 – Dec. 2022

- Developed a recommendation system using TF-IDF vectors and cosine similarity and performed sentiment analysis with NLP techniques like Vader and lemmatization. Forecasted demand with polynomial regression, and predicted prices using random forest regression.

TECHNICAL SKILLS AND CERTIFICATIONS

- * **Certificates:** Foundations of Data Science – Google ([Link](#)); Machine Learning – Stanford ([Link](#)); Data Science Bootcamp – Udemy ([Link](#)).
- * **Programming Languages:** Python, Go, SQL, Java, C#, MATLAB, Bash, PowerShell, Dart.
- * **AI/ ML:** LLMs, AI agents / agentic AI, AI-assisted development, CNNs & Neural Networks, XGBoost/LightGBM, clustering (KMeans, DBSCAN), time-series forecasting, SHAP, model deployment (FastAPI/Flask)
- * **Cloud & DevOps:** Azure, AWS, GCP, Docker, Kubernetes, CI/CD (GitHub Actions), REST APIs, Git
- * **Data & Tools:** Power BI, Elasticsearch/Kibana, Streamlit, Flutter, Firebase