Vendgram Inc

Research Lab

Vendgram Inc
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Executive Summary

Research-driven AI/ML engineers passionate about turning complex problems into scalable systems. We design and deploy end-to-end pipelines across NLP, computer vision, and predictive analytics by combining deep learning expertise with production engineering. With proven skills in Python, TensorFlow, PyTorch, and cloud platforms, our focus is to build models that are accurate, reliable, and impactful. Our mission: to bridge research and product by building AI systems that scale in the real world.

Skills

Programming & Frameworks

- Python, Rust, PHP (Laravel), SQL, Flutter
- Full-stack development: frontend, backend, and REST API design

AI/ML Expertise

- Deep learning, NLP, computer vision, recommender systems, predictive analytics
- Frameworks: PyTorch, TensorFlow, scikit-learn, Keras, Jupyter
- End-to-end ML lifecycle: data preprocessing, feature engineering, training, evaluation, deployment, and monitoring

Cloud & Deployment

- AWS, Azure, Google Cloud
- Docker, CI/CD pipelines, Linux server administration
- Building scalable, reproducible ML environments and infrastructure for production

Data & Systems Engineering

- Data pipeline design and orchestration
- API-first architectures for ML integration
- Performance optimization, observability, and monitoring

Research & Collaboration

- Experiment design, benchmarking, and reproducibility best practices
- Documentation, version control, and experiment tracking for transparent research

- Cross-disciplinary collaboration
- Open-source contributions and knowledge sharing
- Technical writing and effective communication of research outcomes

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Projects

Standardized Pricing (STP) — Commodity Intelligence

Goal
To design an intelligent system that extracts, organizes, and presents commodity price data in a standardized, accessible format. The aim was to enhance market transparency and enable users to make informed shopping and business decisions.

Approach

- Applied machine learning models to extract, clean, and normalize commodity data from multiple sources.
- Designed data pipelines for ingestion, validation, and transformation, ensuring accuracy and consistency.
- Integrated the ML system with a user-facing application, enabling real-time access to structured pricing information.

Technologies & Frameworks

- Python for scripting and model development
- Pandas, NumPy for preprocessing and data wrangling
- scikit-learn / PyTorch for ML modeling
- REST APIs for data access and integration
- Cloud deployment on AWS

Outcome

- Delivered a scalable ML-powered system that automated commodity price extraction and reduced manual tracking.
- Improved data accuracy and reliability, minimizing anomalies and inconsistencies.
- Enabled real-time decision-making for users through a standardized, accessible pricing dashboard.

Fintech Reward Card System

Goal
To design and launch a reward-based payment card platform, providing founders and businesses with loyalty and incentive solutions.

Approach

- Contributed as part of the founding engineering team, responsible for backend logic and system design.
- Developed features such as reward accrual, redemption, and

transaction tracking.

- Integrated API services for card processing, payments, and account management.

Technologies & Frameworks

- PHP (Laravel) for backend development
- REST APIs for transaction and reward services
- SQL databases for secure financial data storage
- Cloud deployment using AWS

Outcome

- Delivered a working fintech platform that enabled seamless loyalty and reward management.

eCabs Technologies Collaboration

Goal
Support product development and system scaling for a multi-tenant ride-hailing SaaS platform.

Approach

- Contributed to requirements gathering and documentation (BRD, user stories).
- Provided support in data-led prioritization and feature definition across squads.
- Assisted in shaping product workflows that supported thousands of daily users.

Technologies & Frameworks

- Agile product management workflows (sprint planning, backlog management).
- Collaboration on cloud-based SaaS architecture.
- Use of standard project tools (Jira, Confluence, API documentation platforms).

Outcome

- Helped streamline the product development lifecycle, from requirements to delivery.
- Strengthened Vendgram's portfolio with hands-on involvement in a live SaaS product at scale.
- Demonstrated Vendgram's capability to work in cross-functional product environments, beyond pure research.

Palm Republic — Web3 Tokenization

Goal
To explore the use of blockchain technology for asset tokenization by creating a proof-of-concept system that represents palm trees as digital

tokens, enabling growth tracking and revenue sharing.

Approach

- Designed a blockchain-based framework to tokenize palm trees, linking real-world growth data to digital assets.
- Built smart contracts to manage ownership, entitlements, and revenue distribution.
- Developed a prototype interface for tracking tokenized assets and their associated growth/revenue cycles.

Technologies & Frameworks

- Rust for smart contract development
- Web3 frameworks for blockchain interaction
- APIs for integrating off-chain growth data into on-chain records
- Cloud-based deployment for prototype hosting

Outcome

- Delivered a working tokenization proof-of-concept that connected physical assets (palm trees) to blockchain records.
- Demonstrated Vendgram's capacity to bridge experimental technology with practical use cases.
- Strengthened Vendgram's reputation for cross-domain innovation (AI, fintech, and Web3).

WellKeep — Personal Health Records Vault

Goal
To build a secure, user-controlled health records vault that allows patients to store, manage, and share their medical history seamlessly across providers, eliminating fragmented paper trails and repeated record creation.

Approach

- Designed a HIPAA/GDPR-conscious architecture with strong data security and privacy as core principles.
- Developed a Supabase-backed storage system for encrypted file and metadata management.
- Integrated AI-powered summarization and retrieval to help users and doctors quickly interpret uploaded medical records.
- Enabled hospital and lab uploads via secure, time-bound links, ensuring trust and control remained with the patient.

Technologies & Frameworks

- Supabase for database and storage (with row-level security)
- Python for backend processing and ML summarization models
- FHIR (Fast Healthcare Interoperability Resources) standards for healthcare data structuring
- Frontend: Next.js + Tailwind for patient-facing web interface
- Cloud deployment on AWS for scalability and compliance

Outcome

- Delivered a functional MVP for storing, retrieving, and sharing medical records securely.
- Reduced patient friction by consolidating multiple fragmented health records into one vault.
- Enhanced patient-doctor decision-making with AI-generated summaries, confidence scores, and disclaimers.
- Established Vendgram as an AI/ML lab capable of building applied solutions in regulated industries.

Real Estate Price Prediction — Applied ML Pipeline

Goal
To develop a machine learning model capable of predicting house prices based on structured property data, demonstrating an end-to-end ML workflow from raw data to deployment.

Approach

- Collected and cleaned real estate datasets, applying feature engineering (e.g., location, square footage, condition).
- Trained and compared regression models to optimize accuracy and minimize error rates.
- Built an API interface so predictions could be accessed programmatically.
- Deployed the system as a lightweight web app for interactive testing and demonstration.

Technologies & Frameworks

- Python for data preprocessing and ML workflows,
- scikit-learn, TensorFlow, PyTorch for regression modeling and evaluation
- Flask/FastAPI for serving predictions via REST APIs
- Jupyter for experimentation and documentation

Outcome

- Delivered a functional predictive model with strong accuracy on real estate datasets.
- Demonstrated Vendgram's ability to build end-to-end ML systems that combine research with deployment.
- Added to Vendgram's portfolio of applied AI projects, showcasing versatility across industries.

Education

Bachelor of Science in Computer Science

Bachelor of Science in Mathematics