

KRISTY NATASHA YOHANES

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SUMMARY

AI/ML developer with over 4 years of combined academic and industry experience using Python and SQL. Expertise includes Machine Learning, Natural Language Processing, Cloud Deployments, and Software Development. Skilled in implementing advanced models for anomaly detection, fraud prevention, and personalized recommendations, as well as building scalable backend systems. Demonstrated success in deploying various Graph Neural Network (GNN) models to production, effectively mitigating security risks through API integrations in Fraud Detection Systems. Holds a BSc from ITB with a research focus on time-series & Artificial Neural Network (ANN) applications.

TECH STACKS & SKILLS

Programming Languages:

- Python (proficient)
- JavaScript (previously used)
- SQL (proficient)
- C++ (previously used)

Libraries & Tools:

- **Machine Learning:** Scikit-learn, TensorFlow, PyTorch, Keras, XGBoost, OpenCV, ARIMA, LSTM
- **Graph Networks:** NetworkX, RGCNconv, HGTconv
- **Natural Language Processing:** NLTK, HuggingFace, spaCy
- **Generative AI:** GPT-4, Llama, Stable Diffusion (SDXL)
- **LLM Framework:** OpenAI
- **Visualization:** Matplotlib, Seaborn, Pandas, NumPy, Plotly

Databases:

- PostgreSQL
- MySQL
- Google BigQuery
- DBMS: DBeaver

Development:

- **Code Editor:** VS Code, Google Colab
- **Version Control:** Git
- **Backend Frameworks:** Flask, Django, Gin

Deployment:

- Compute Engine VM
- Cloud Functions
- Docker, Kubernetes

WORK EXPERIENCE

1. Data Analyst (AI/ML, Big Data, Anti-Fraud Engineering) - LinkAja

Dec 2023-Present
- Model development:

Achieved 4/4 project completion across model development cycles (1 model per 2-4 sprints), including:

- Implemented PCA and Isolation Forest for anomaly detection in merchant-customer transactions;
  - Applied Random Forest and Network Analysis to map illegal online gambling transactions;
  - Developed semi-supervised Relational Graph Convolution Network (RGCN) model for collusion risk assessment;
  - Created a gradient boosting model that utilizes the Heterogeneous Graph Transformer (HGT) architecture to detect syndicate fraudsters within clustered graphs, contributing to best practices in Anti-Money Laundering (AML).

ML Deployment:

Delivered 100% successful execution in model deployment in collaboration with AI/ML engineers, including:

- Utilized GCP cloud automation tools including Cloud Functions and Virtual Machine for model deployment.

BAU:

Contributed to up to an 11.2% reduction in fraud incidents and saved an average of 95% in potential losses each month through:

- Utilizing device intelligence and computer vision to monitor tampering, cyberattacks, and account takeovers.
  - Optimizing SQL queries in BigQuery data marts, reducing query execution times by an average of 180 seconds (saved storage costs).
  - Collaborating on real-time data streaming with Apache Kafka and creating Looker dashboards for efficient monitoring.
2. Data Scientist (Inventory & Marketing) - Kalbe Nutritionals

Sep-Nov 2023
- Utilized PostgreSQL in DBeaver for daily data exploration and developed interactive Tableau dashboards for monitoring.
  - Accomplished 100% completion in 2 sprints: Employed ARIMA time-series regression in Python for daily product quantity estimation and applied K-Means Clustering to optimize marketing strategies and provide personalized promotions based on customer segments.
3. Artificial Intelligence Engineer / NLP Developer - Tikus Beken (Software House)

Jan-Aug 2023
- Designed and deployed a Flask-based recommendation system API incorporating NLP techniques such as topic modeling, named entity recognition, and sentiment analysis, improving personalized job matching between seekers and listers by 30%.
  - Attained 100% project delivery by utilizing Docker and Kubernetes for deployment, enhancing system scalability.
- Previous work experiences:
4. Machine Learning Researcher - FITB Research Grant ITB

Feb 2022-Nov 2023
5. Full-Stack Developer Internship - BTPN Syariah

Oct-Dec 2022
6. Front-End Developer Internship - Core Initiative Studio

Aug-Oct 2022
7. Data Science Research Internship - LAPAN/Indonesian National Aeronautics & Space Administration

Feb-Aug 2022
8. GIS Data Analyst Internship - Garda Caah

Apr-Jun 2022

PROJECTS

- **Fraud Detection System API: Syndicate Indication using Network Graph Analysis - Hackathon BI 2024**  
Developed a Flask API to generate JSON files of node embeddings (graph positions), syndicate scores, and clusters.
- **YouTube NLP Video Recommendation Algorithm using User's Watch History**  
Utilized YouTube API with OAuth 2.0 to extract keywords using NLTK within a Kedro data pipeline and provide recommendations.
- **Mobile Banking API Development: Secure User Registration and Profile Management**  
Developed secure user registration API for a mobile banking application using Gin Gonic, implementing JWT authentication.
- **Automated Customer Churn Prediction System (MySkill x Deloitte)**  
Developed a decision tree model prediction and automated it via cron job scheduling on VM, visualizing results in Power BI.

PROFESSIONAL & COURSEWORK CERTIFICATIONS

- **Semifinalist AI Hackathon Bank Indonesia - FEKDI 2024:** Graph-based AI for Syndicate Identification
- **Bootcamp E-Learning:** Data Science, Website Development/Backend - Python Flask (MySkill)
- **AML and Data Governance Training:** Risk-Based Mentoring Program in Financial Technology Crimes (PPATK)
- **Full-Stack Development Training:** Certificate of Competencies (BTPN Syariah Fullstack Developer PBI Program)
- **Courseworks:** Google Cloud Professional Machine Learning Engineer Cert Prep (Google), Python for Data Science AI & Development (IBM), The Full Stack (Meta), Artificial Intelligence on Microsoft Azure (Microsoft)

EDUCATION

- **Bachelor of Science (Data Science & AI Specialization)** Institute of Technology Bandung
- **Computer Science for Artificial Intelligence (CS50)** Harvard University