

NATTHAKIT PINYORATTANAKIT

AI ENGINEER | SOFTWARE ENGINEER

Computer Vision | Automation | Backend & Data Systems

Bangkok, Thailand | nattakit.nice2580@gmail.com
+66 97 239 7838 | +66 64 853 7374 | github.com/nattakit2580

ABOUT

AI and software engineer at Fabrinet, currently studying Engineering Management at Thammasat University. I build practical systems for manufacturing, including computer vision, backend APIs, dashboards and workflow automation. My focus is creating tools that teams can use and maintain in daily operations.

SKILLS

Programming & Scripting
Python, JavaScript, SQL, HTML5, CSS3, PHP, Git, object-oriented programming

Backend & API Development
FastAPI, Flask, REST APIs, JSON, API integration, file processing, validation and error handling

Databases & Data Engineering
PostgreSQL, SQLite, database integration, SQL queries, ETL workflows, CSV/Excel automation and data pipelines

AI, LLM & Machine Learning
PyTorch, TensorFlow, Scikit-learn; OpenAI / Azure OpenAI APIs, LangChain, LangGraph, RAG, prompt engineering, tool calling and agent workflows

Computer Vision
OpenCV, YOLO, MediaPipe, object detection, image classification, camera integration and inference pipelines

Applications & Automation
PyQt, PySide6, Flet, desktop tools, web applications, workflow automation, chatbot systems and production logging

Analytics & Business Intelligence
Pandas, NumPy, Power BI, Tableau, Looker Studio, Excel, KPI dashboards, reporting and data visualization

EDUCATION

Thammasat University
M.Eng. Engineering Management
GPA 3.72 | Jul 2025 - Present

Bangkok University
B.Eng. AI Engineering & Data Science
GPA 3.59

COURSES TAUGHT

- AI Object Detection with Roboflow
- Essential Math for AI
- Machine Learning with Python for Time Series Forecasting

WORKING STYLE

- Build for real daily use, not only demos
- Turn manual steps into clear workflows
- Explain technical work in practical language
- Connect engineering work with business needs

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EXPERIENCE

AI Engineer & Software Engineer — Mar 2025 - Present
Fabrinet Co., Ltd.

- Build AI, LLM-enabled and software tools for manufacturing, quality inspection, data visibility and daily operations.
- Develop RAG assistants and agent workflows using prompt engineering, embeddings, knowledge retrieval, tool calling and API integration.
- Create computer vision pipelines, Python applications, backend APIs, dashboards and automation from validation to database logging and user interfaces.

Course Instructor — 2024 - Present
SkillLane / Udemy

- Teach project-based courses in AI, data analysis and Python, from data preparation to deployment.
- Explain technical concepts through practical examples and complete working projects.

AI / Machine Learning Freelancer — Aug 2023 - Present
Fastwork.co

- Build AI, chatbot, dashboard, data analysis and website solutions based on client requirements.
- Deliver custom models, automated reports and chatbot workflows for real business use.

Investment Research & Content Creator — Oct 2024 - Present
NPK Invest

- Research companies, business models, financial results and market themes.
- Turn complex technology and investment topics into clear explanations and visual content.

AI Engineer & Data Science Intern — Jun - Jul 2024
Plan B Media PCL

- Built an image-management workflow for object detection results, labeling and review.
- Developed an internal chatbot for company information and billboard locations across Thailand.

SELECTED PROJECTS

Manufacturing Computer Vision: Inspection, object counting, image classification, inference, QA tools and production dashboards.

Object Detection Workflow: Structured predicted images into folders and review steps for faster checking and labeling.

Thai Sign Language Detection: Used MediaPipe hand landmarks and compared five machine-learning models.

Sentiment Analysis Web App: Trained sentiment models and built a Flask app for input, results and data download.

Business Intelligence: Built KPI dashboards with Tableau, Power BI and Looker Studio for operational decisions.

SYSTEMS BUILT

- Computer vision tools for inspection, object counting, image classification and production QA.
- Production dashboards connected to PostgreSQL with automated reporting and tracking.
- Shipment, ASN and label-verification tools for scanning, validation, printing and completion.
- Work-order tracking and manufacturing-system integration for part, serial number and operation status.
- BOM, cycle-time, CSV and reconciliation automation for repetitive engineering checks.

TOOLS DELIVERED

LLM Knowledge Assistant
RAG, prompts and knowledge retrieval

Production Insight
Dashboard and reporting

Workorder Tracking
Part, serial and operation status

AI ASN Label
Scan, validate, print and complete

Box Counting
Camera-based counting workflow

Agentic AI Workflow
Tool calling and multi-agent routing

BOM Automation
Placement, cleaning and checking

Cycle Time Merger
Production data consolidation

SearchFaceEN
Face-search support tool

PDF to FITS
Data extraction and transfer