

Thoop-hom (Trisha) Supannopaj

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LinkedIn | GitHub | Portfolio

Summary

U.S. Air Force Veteran and **Software Engineer specializing in AI/ML**. Skilled in building intelligent systems with **Python, PyTorch, TensorFlow, scikit-learn**, Hugging Face, and LangChain. Research includes reproducing **Meta AI's Toolformer**, exploring **Retrieval-Augmented Generation (RAG)**, and studying **Federated Orthogonal Training (FOT)**. Strong foundation in full-stack development for end-to-end deployment. Active Secret Security Clearance. Bilingual in Thai and English.

Technical Skills

Programming: Python, Java, JavaScript, HTML/CSS, SQL, PHP

Frameworks/Libraries: PyTorch, TensorFlow, scikit-learn, React, Next.js, Flutter, Node.js, Spring Boot

Databases: PostgreSQL, MySQL, MongoDB

Other: Git/GitHub, Unix/Linux, Agile, cPanel

Education

Montclair State University

M.S. in Computer Science

Expected Winter 2026

Chulalongkorn University, Thailand

B.F.A. in Fine and Applied Arts

Jul 2016

Research & Projects

Toolformer (Meta AI) Reproduction

Python, PyTorch, Hugging Face

- Reproduced a self-supervised LLM that autonomously uses external tools (APIs, search, translation).
- Implemented API-augmented prompts, fine-tuned GPT-2, and evaluated on QA and math tasks.

Retrieval-Augmented Generation (RAG)

Python, FAISS/pgvector

- Built pipelines with embeddings and retrieval to reduce hallucinations in LLM outputs.
- Experimented with chunking, prompt construction, and vector DBs for accuracy.

Federated Orthogonal Training (FOT)

PyTorch

- Studied methods to mitigate catastrophic forgetting in continual federated learning.
- Reproduced gradient-orthogonality experiments and analyzed global stability.

Climate Change Visualization Web App

React, REST, Leaflet/Mapbox

- Built dashboards with NASA/NOAA APIs for temperature and sea-level data.
- Designed interactive maps, filters, and mobile-first UI.

Serenity Space E-Commerce Website

PHP, SQL

- Developed secure full-stack site with role-based access and hashed passwords.
- Managed database for products, orders, and inventory.

Professional Experience

Software Developer — 7 Eagle Group

Feb 2023 – Jun 2026

- Built web apps using React, Node.js, Python, and SQL for client projects.
- Applied Pandas for data analysis and reporting on large datasets.
- Managed version control with Git/GitHub and CI/CD workflows.

Medical Logistics Technician — U.S. Air Force (Active Duty)

Mar 2019 – Jul 2023

- Automated workflows with Python scripts; streamlined communications for medical staff.
- Administered logistics servers and security for 41 clinics and \$53M in assets.
- Recognized by Surgeon General for optimizing readiness; supported 159K beneficiaries.