

THOOP-HOM (Trisha) SUPANNOPAJ

+1 (973) 900-0790 | thoophom.su@gmail.com | Morristown, NJ, USA
linkedin.com/in/trisha-supannopaj | github.com/Thoophoms | thoophoms.com

SUMMARY

United States Air Force veteran and software engineer with a Master's in Computer Science. Experienced in Python, machine learning, and full-stack development with React, Node.js, and FastAPI. Builds AI-powered tools and web applications with a focus on practical, end-to-end product delivery. Background in large-scale logistics operations managing multimillion-dollar assets.

EDUCATION

Montclair State University

Master of Science in Computer Science

GPA: 3.72

Relevant Coursework: Data Structures & Algorithms, Computer Networks, Algorithms & Analysis, Machine Learning

Montclair, NJ

August 2023 – January 2026

TECHNICAL SKILLS

Languages: Python, SQL, JavaScript, TypeScript

AI / ML: PyTorch, TensorFlow, scikit-learn, Hugging Face Transformers, LangChain, OpenAI Whisper

Web Development: React, Next.js, Node.js, Express, FastAPI, REST APIs

Data & Databases: Pandas, Matplotlib, MySQL, MongoDB

DevOps & Tools: Git, GitHub Actions (CI/CD), Docker, Vercel, Jupyter Notebook, Unix/Linux

PROFESSIONAL EXPERIENCE

7 Eagle Group

Software Engineer Intern

Trenton, NJ

February 2023 – June 2023

- Built internal web tools using React, Node.js, Python, and SQL to support operational workflows and reporting.
- Authored data pipelines in Pandas to automate data extraction, transformation, and analysis for internal stakeholders.
- Practiced version control with Git and participated in CI/CD workflows, code reviews, and documentation.

United States Air Force

Medical Logistics Technician

Anchorage, AK

March 2019 – July 2023

- Owned the end-to-end procurement pipeline: processed 1,600 requisitions and purchased 291 devices (\$3M) while maintaining 5,200 assets (\$53M) across 41 clinics, improving data integrity and audit readiness.
- Led parts of a \$2.5M central monitoring upgrade across six departments, managing access controls, permissions, and compliance.
- Standardized inventory controls and documentation to achieve 100% accountability of 5,200 equipment assets.
- Streamlined receiving and issuance for 300K items and \$24M in receipts supporting 303K patient visits; contributed to USAF Surgeon General Hospital of the Year 2020.
- Coordinated transfer of 71 beds (\$526K) and distribution of \$41K in PPE during COVID-19, restoring specialty care capacity by 280% and supporting 159K beneficiaries at a 65-bed joint DoD/VA hospital.
- Served as primary government purchase card agent, delivering \$3M in equipment on time within security and budget constraints.
- Air Force Ambassador for Boys and Girls Club; raised \$20K in scholarships, connected 164 homeless veterans to services, and raised \$30K for 8K youth through volunteer outreach.

PROJECTS

Rough Cut – AI Video Editing Tool | Python, FastAPI, React, TypeScript, Whisper, sentence-transformers

- Building a full-stack video editing application that automatically detects silence and repeated content in video recordings.
- Engineered a backend pipeline (FastAPI) for video upload, audio extraction, silence detection, speech transcription via Whisper, and semantic similarity analysis using sentence-transformers and cosine similarity.
- Developed a React/TypeScript frontend with file upload, API integration, and conditional rendering of analysis results.

Split Learning + Federated Orthogonal Training | Python, PyTorch

- Designing a Split-Learning loop that applies orthogonal gradient projection during back-propagation to mitigate catastrophic forgetting across sequential tasks.
- Implementing per-layer maintenance of prior-task subspaces; evaluating with Average Accuracy and Backward Transfer metrics.

AI Audio/Video Transcriber | Python, Streamlit, AssemblyAI

- Developed and deployed a web application that transcribes audio and video files using AI speech recognition with multi-language support.
- Built an intuitive upload interface supporting 6+ formats; deployed to Streamlit Cloud with secure API key management.

Toolformer (Meta AI) Reproduction | Python, PyTorch, Hugging Face

- Reproduced API-augmented prompting and fine-tuned GPT-2; evaluated on QA and math tasks to study tool-use behaviors and reduce hallucinations.
- Built repeatable training and evaluation scripts with experiment tracking; improved answer correctness via retrieval and tool calls.

AI-Powered Headless Portfolio (thoophoms.com) | React, Next.js, WordPress, WPGraphQL, Vercel

- Built a headless architecture (Next.js + WordPress CMS) with a custom AI assistant using the Vercel AI SDK and Groq LLaMA 3.1, backed by secure API routes.
- Configured CI/CD via GitHub to Vercel with environment secrets, modular React components, and Tailwind CSS for responsive UX.