Noah Lee

noah.v.lee@gmail.com
noah-v-lee
noahleegithub
Personal Webpage
College Station, TX
Available for consulting and contract work

Summary

Computer vision engineer with four years of professional experience building production ML pipelines across space, maritime, and security domains. I can work on all components of the MLOps lifecycle: data engineering, model training, and continuous edge deployment. Available for project-based work in computer vision, model deployment, and edge and embedded ML.

Selected Projects

- **Marine Perception for Unmanned Surface Vessels** — MIT Lincoln Laboratory / External Partner
  Perception Lead — March - August 2026
  - Led computer vision for unmanned surface vessels by selecting datasets, training models, and constructing the edge deployment pipeline.
  - Built perception models to detect obstacles in visible and thermal imagery that run in real time on edge hardware for maritime operations.
  - Delivered a UAV-mounted lightweight detection model for wide-scale aerial search and rescue that runs on Raspberry Pi class compute.
  - Architected GPU-accelerated deployment for minimal glass-to-glass latency, by decoding and running inference on video streams directly inside GPU memory.

Professional Experience

- **MIT Lincoln Laboratory** — Lexington, MA
  Machine Learning Engineer — July 2022 - Present
  - Built vision-language models for long-term action recognition on body-worn camera footage, using structured generation to autolabel videos at scale.
  - Benchmarked vision-language foundation models on satellite hyperspectral imagery under limited data and analyzed data scaling-laws; extended the same approach to open-set detection in X-ray imagery using natural language.
  - Delivered 3D segmentation pipelines that detect hazardous materials in luggage at security checkpoints, deploying on a multi-node cluster for high-throughput inference.
  - Created the dataset storage and experiment pipeline infrastructure for a satellite remote-sensing program and introduced CI workflows for reproducible ML experiments.
  - Built microservice pipelines that enable self-service screening in real time at airport checkpoints, including finetuned anomaly detection and a self-supervised pose model trained from millimeter-wave returns.
- **Massachusetts Institute of Technology** — Cambridge, MA
  Research Assistant — January 2023 - September 2023
  DAF-MIT AI Accelerator - Pilot Performance Prediction Using Physiological Metrics
  - Built algorithms to estimate pilot cognitive stress during difficult landings from physiological and behavioral signals (EMG, ECG, gaze).
  - Synchronized multimodal timeseries and loaded 140 GB of data in five minutes via lazy loading.
  - Benchmarked time series machine learning features, TSFresh and MINIROCKET, for scalability and accuracy with published results.
- **The MITRE Corporation** — McLean, VA
  Systems Engineer (Co-op) — May 2021 - December 2021
  - Leveraged probabilistic models of radar tracks to detect and classify air traffic in low-visibility conditions.
  - Simulated air traffic control (ATC) with executable activity diagrams to surface potential mistakes and efficiency improvements.

Teaching & Mentoring

- **MIT Lincoln Laboratory - SOCOM Ignite**
  AI Workshop Instructor & Data Fusion Team Mentor 2022 - 2024
  - Ran an introductory AI workshop for 50+ students and mentored several student teams through full-year projects.
- **Northeastern University**
  Teaching Assistant, Machine Learning & Data Mining; CS Fundamentals 2021 - 2022
  - Supported undergraduate machine learning and core CS courses.

Technical Skills

- **Languages:** Python, C++, C, MATLAB, Java
- **Machine Learning & Vision:** PyTorch, JAX, TensorFlow/Keras, ONNX
- **Deployment & Infrastructure:** Docker, Redis, Slurm, git, CI/CD, NVidia Deepstream, Triton Inference Server

Education

Texas A&M University College Station, TX
M.S. in Computer Engineering (MSCE) Fall 2026 - Expected Spring 2028
Research: vision-language models to build knowledge graphs from construction blueprint PDFs, computer vision for road-side safety.

Northeastern University, Khoury College of Computer Sciences Boston, MA
Bachelors of Science in Computer Science September 2019 - May 2022
Summa Cum Laude, Dean's List **GPA: 3.96/4.00**

Publications

- **N. Lee**, P. W. Moore and L. J. Brattain, "Scalable Deep Learning for Pilot Performance Analysis Using Multimodal Physiological Time Series," 2023 IEEE High Performance Extreme Computing Conference, doi: 10.1109/HPEC58863.2023.10363513.
- K. Vogt-Lowell*, **N. Lee***, T. Tsiligkaridis and M. Vaillant (* equal contribution), "Robust Fine-Tuning of Vision-Language Models for Domain Generalization," 2023 IEEE High Performance Extreme Computing Conference, doi: 10.1109/HPEC58863.2023.10363450.

Awards

MIT Lincoln Laboratory 2023-2024 Team Award July 2024