

Huong Ngoc Pham

(405) 968-7200 | huong.n.pham01@gmail.com | Oklahoma, USA (Green Card Holder)

PROFESSIONAL SUMMARY

AI Researcher & Computer Vision Scientist (Ph.D.) with expertise in advanced image processing, pattern recognition, computational imaging, and deep learning algorithms. Proven track record in optimizing computer vision models, feature extraction, noise reduction, and transition of prototypes into production-grade software for high-precision imaging and automated pipelines.

CORE COMPETENCIES

Image Processing & Computer Vision

Pattern Recognition & Feature Extraction

Image Segmentation

PyTorch, TensorFlow

Python, C++, Linux

Computational Imaging & Signal Processing

High-Performance Computing & SLURM

WORK EXPERIENCE

University of Oklahoma Aug 2019 - Dec 2025

Ph.D. Researcher / Graduate Research Assistant

Norman, OK

- Advanced Computer Vision & Image Algorithms:** Developed, characterized, and optimized advanced image processing and computer vision algorithms (LVLMs + SAM) for high-precision zero-shot image segmentation, achieving a 0.95 Dice score.
- Pattern Recognition & Feature Extraction:** Modified non-iterative cluster routing to replace traditional routing-by-agreement, optimizing memory and computing efficiency, achieving SOTA 1.46% error on benchmark datasets.
- High-Performance Computing:** Trained complex deep learning models by leveraging high-performance computing resources, scaling distributed workloads across Linux supercomputing clusters using SLURM.

Promaxo Inc May 2022 - May 2023

Data Scientist Intern & Extended Part-Time

Oakland, CA

- End-to-End Image Processing & Production Deployment:** Led end-to-end development and deployment of 3D medical image segmentation models for needle guidance and real-time clinical procedures on GCP cloud.
- Latency & Registration Optimization:** Automated image registration pipelines and alignment algorithms across high-field and low-field MRI workflows, achieving a 60% reduction in image registration latency and 96% segmentation accuracy.
- Cloud & Automated Pipelines:** Deployed automated serverless GCP pipelines (dynamic instance provisioning, model weighting, inference) into core software across clinical sites.

TIBCO Software Inc May 2020 - Aug 2020

Analytics Developer Intern

Tulsa, OK

- Stream Analytics & Signal Processing:** Engineered 15 real-time stream processing and signal analysis operators in Python and Java for high-throughput data processing.

ICDREC & Enterprise Hardware Companies 2012 - 2016

ECAD / Hardware Engineer

Vietnam

- High-Speed Signal & Systems Engineering:** Designed multi-layer high-speed, high-density PCBs up to 30 layers for 3 GHz enterprise hardware.

EDUCATION

Ph.D. in Machine Learning and Computer Vision @ University of Oklahoma [Electrical & Computer Engineering Department](#) | GPA: 3.88/4.0 Aug 2019 - Dec 2025

M.S. in Electrical & Computer Engineering @ University of Oklahoma Aug 2016 - Aug 2019

TECHNICAL SKILLS

Computer Vision & Algorithms: Image Processing, Pattern Recognition, Feature Extraction, Image Segmentation, Computational Imaging

Machine Learning & Frameworks: PyTorch, TensorFlow, SAM, Vision-Language Models, CNNs, Scikit-Learn

Programming & Tools: Python, C/C++, Linux, SLURM, Git, GCP, OpenCV, 3D Slicer, ANSYS HFSS

SELECTED PUBLICATIONS

"Prototype-Guided Zero-Shot Medical Image Segmentation with Large Vision-Language Models", [Journal of Applied Sciences](#), 2025

"Deep learning-based rectum segmentation on low-field prostate MRI to assist image-guided biopsy", [SPIE Conference, Medical Imaging](#), 2023