Huong N. Pham

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Summary

Experienced deep learning architect specializing in end-to-end algorithm development for image analysis and segmentation, with research spanning medical imaging, computer vision, and large language models (LLMs).

Education

Ph.D. Candidate in Machine Learning and Computer Vision — University of Oklahoma, USA Expected Jun 2025
Electrical & Computer Engineering Department | GPA: 3.88/4.0

M.S. in Electrical & Computer Engineering — University of Oklahoma, USA Dec 2018

B.Sc. in Electrical & Computer Engineering — Ho Chi Minh City University of Technology, Vietnam Dec 2012

Skills

Machine Learning:	Statistical Analysis, Capsule Network, CNN, Foundational Models
Programming:	Python, Java, C++, R, Unix Shell Scripting, MATLAB, GCP
Technologies/Frameworks:	Pytorch, GCP, Git, Databricks, 3D Slicer, JIRA, TIBCO Spotfire, TIBCO StreamBase

Work Experience

Ph.D. Student — University of Oklahoma, Norman, OK Aug 2019 - May 2025
Deep Learning Architecture in Image Analysis and Semantic Segmentation Advisor: Samuel Cheng

- Improved cluster routing in capsule networks, enhancing model explainability.
- Developed and applied deep learning architectures for semantic segmentation in medical imaging.
- Created CAD schemes for radiomic feature analysis in gastric cancer diagnosis and prognosis prediction.

Data Scientist Intern & Extended Part–Time — Promaxo Inc, Oakland, CA May 2022 - May 2023
Real-Time Guidance Software for Radiologists in Prostate Biopsy Needle Positioning

- Deployed into the company's production-level projects, providing end-users with both cloud and offline access.
- Achieved an average of 60% reduction in image registration time for transitioning from high-field to low-field MRI images.
- Reduced MRI image annotation time by 40%, cutting costs for radiologist hiring.
- Achieved 70% rectal segmentation accuracy in low-field and 96% in high-field MRI images.

Analytics Developer Intern — TIBCO Software Inc, Tulsa, OK May 2020 - Aug 2020

- Developed and documented 15 analytics operators for TIBCO StreamBase in a streaming context.
- Contributed to the development of *Dynamic Learning* for adaptive model adjustment to changes in data distribution.

Publications

"Non-Iterative Cluster Routing: Analysis and Implementation Strategies", *Journal of Applied Sciences, 2024.* Code

"Enhancing Semantic Segmentation through Reinforced Active Learning: Combating Dataset Imbalances and Bolstering Annotation Efficiency", *Journal of Electronic & Information Systems, 2024.*

"Deep learning-based rectum segmentation on low-field prostate MRI to assist image-guided biopsy", *SPIE Conference, Medical Imaging: Image-Guided Procedures, Robotic Interventions, and Modeling, 2023.*

"Identifying an optimal machine learning generated image marker to predict survival of gastric cancer patients", *SPIE Conference, Medical Imaging: Computer-Aided Diagnosis, 2022.*