Minh Pham-Dinh

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Education

The University of Utah — Salt Lake City, Utah
PhD in Computing: Robotic — Starting Fall 2026
- **Advisor:** Prof. Kenneth Marino

Colby College — Waterville, Maine
B.A. in Computer Science and Mathematics — 2022 - 2026 *(expected)*
- **GPA:** 3.88 *Dean's List*
- **Major GPA:** 3.95   **TOEFL:** 115/120
- **Advisor:** Prof. Stacy Doore
- **Thesis (in progress):** Semantic Scene Graph for Safe Indoor Navigation in Assistive Robots

Skills

Programming & HPC: Python, JAX, Java, Fortran, CUDA, TensorFlow, PyTorch

Robotics & Autonomy: ROS2, Reinforcement Learning, SLAM, LLMs, Computer Vision

Simulation & Tools: MuJoCo, PyBullet, Linux, Docker, Git, Weights & Biases

Cloud & Data: AWS, Azure, Snowflake, SQL

Design & Productivity: CAD (SolidWorks, Onshape), Inkscape, LaTeX, Microsoft 365

Languages: Vietnamese (Native), English (Fluent)

Awards and Honors

- **Presidential Scholar,** Colby College — 2022, 2023, 2024
- **Dean's List,** Colby College — 2022, 2024
- **Third Place Team,** International Olympiad on Astronomy and Astrophysics 2020.10
- **National Astronomy Olympiad team member,** Top 5 students in Vietnam 2021.05

Publications

1. **Minh Pham Dinh**, Michael G Yankoski, Munira Syed, and Trenton W. Ford. DAVIS: Planning agent with knowledge graph-powered inner monologue. In Christos Christodoulopoulos, Tanmoy Chakraborty, Carolyn Rose, and Violet Peng, editors, *Findings of the Association for Computational Linguistics:* EMNLP 2025, pages 16490–16505, Suzhou, China, November 2025. Association for Computational Linguistics. ISBN 979-8-89176-335-7. URL https://aclanthology.org/2025.findings-emnlp.895/.

2. Son Hoang Pham, Quang Nguyen, **Minh Pham Dinh**, Trung-Khang Tran, Khoa Nguyen, Quang Minh Nguyen, Hoang H Nguyen, Nhat Ho. Accelerated Partial Optimal Transport Computation with Combinatorial and Sparse Solvers. *Under Review at UAI 2026*

Teaching Experience

Colby College   Sep 2023 - Present

Teaching Assistant

- Grader for SC212 (Statistics) in Spring 2026, TA for CS366 (Computer Vision) in Fall 2025, TA for CS232 (Computer Organization) in Spring 2025, CS343 (Neural Networks) in Fall 2024, MA111 (Mathematics as a Liberal Art) in Fall 2023

Research Experience

INSITE Lab   May 2025 – Present

Research Assistant; Honors Thesis under Prof. Stacy A. Doore

- Architected an end-to-end deep learning pipeline for automated large-scale building mapping, generating high-fidelity **3D point clouds** and **semantic scene graphs.**
- Optimized high-resolution processing workflows, analyzing **100,000+ frames** of 1080p mobile data to construct multi-million point clouds with sub-30 minute latencies via **native CUDA acceleration.**
- Engineered a visual place recognition (VPR) system leveraging **Vision Transformers (ViT)** and **VLMs** for scene graph localization, achieving coarse localization accuracy within **3 meters.**
- Implemented a multi-threaded telemetry framework for synchronized high-rate camera downlink and edge-based localization.
- Mentored and supervised junior researchers on laboratory protocols and hardware integration; spearheaded administrative recruitment efforts for the lab.

Davis Institute for Artificial Intelligence   Jan 2024 – Present

Research Assistant; Advised by Prof. Amanda Stent and Prof. Michael Yankoski

- Developed **DAVIS,** a planning agent integrating temporal knowledge graphs with structured inner-monologue retrieval and an actor–critic execution loop, enabling multi-step scientific reasoning. Achieved a 180% performance improvement over state-of-the-art baselines on the SCIENCEWORLD benchmark.
- Implemented and evaluated the system on the SCIENCEWORLD benchmark; served as first author on the paper accepted to **Findings of EMNLP 2025.**
- Presented research at two undergraduate conferences to over 100 students, effectively communicating technical insights and methodologies.

Independent Research   2023 – 2024

Author; Collaborative work outside formal lab affiliation

- Co-developed a novel algorithm for **partial optimal transport** (POT) with quadratic regularization and sparse solvers.
- Applied POT to domain adaptation problems and positive-unlabeled (PU) learning problems to enhance generalization under source-target distribution shift.

INDUSTRY EXPERIENCE

Prospector   May 2025 – Aug 2025

Data Science Intern

- Developed and implemented an LLM-powered pipeline to extract royalty structures from 1,000+ mining contracts, improving the clarity and accessibility of contract insights for internal stakeholders.
- Cleaned, standardized, and preprocessed large volumes of contract text to support downstream modeling and analysis.
- Built supporting scripts and tools to assist in reviewing, organizing, and presenting extracted contract information.

National Payment Corporation of Vietnam   June 2023 – Aug 2023

Data Science Intern

- Performed EDA on 1,000+ financial transactions, revealing transaction clusters indicative of potential fraud patterns.
- Developed and implemented anomaly detection models using machine learning techniques within Splunk, reducing response times to fraud alerts by 30%.
- Designed 5 reports using PowerBI, PowerPoint, and Splunk, presenting insights and trends to managing directors and clients to support key decision-making processes.

Mary Low Coffeehouse   Oct 2022 – Present

Barista

- Craft up to 100+ beverages per shift with consistency in flavor and presentation, contributing to strong repeat-customer satisfaction.
- Support daily operations, including setup, inventory rotation, equipment upkeep, and register handling, for a shop serving 500+ weekly guests.
- Lead R&D for seasonal drink menus by designing new beverage concepts, testing 10–15 recipe variations per cycle, and refining offerings based on customer feedback; specialize in crafting authentic Vietnamese coffee beverages.
- Train and mentor 10+ new staff members on beverage preparation, workflow efficiency, and food-safety standards, strengthening team performance.

ACADEMIC SERVICES

- **Reviewer,** LREC 2026
- **Reviewer,** AISTAT 2026
- **Program Committee,** AAAI 2026
- **Program Committee,** ICDM Demo 2025
- **Panelist,** Colby Bowdoin Bates Counselor Tour 2025