NHUT LE

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SUMMARY Computer Vision Engineer with experience in 3D computer vision, machine learning, and deep learning. Proficient in Python, OpenCV, and PyTorch with a strong mathematical background. Passionate about solving problems in computer vision and computer graphics

EXPERIENCE

Research Assistant Aug 2024 - present

Bina Lab, Lehigh University, Bethlehem, PA

- Research 3D methodologies and machine learning to support disaster-affected areas

Computer Vision Engineer Oct 2020 - Oct 2023

Sturfee Inc., Milpitas, CA

- Develop, prototype, and enhance methods for 3D reconstruction and precise localization in the 3D prior map using Structure-from-Motion (SfM) and Multi-View Stereo (MVS) techniques, resulting in improving outdoor Visual Positioning System (VPS) and enabling indoor VPS
- Implement and optimize RGBD integration algorithms to reconstruct 3D point clouds and meshes, such as using TSDF volume integration and optimizing RGBD poses
- Work with deep learning networks for 3D semantic segmentation
- Proficient in 3D manipulations such as mesh texturing, texture baking, bundle adjustment, and UV unwrapping

EDUCATION

Lehigh Univesity	Ph.D in Computer Science	Aug 2024 - present
Portland State University	Master of Science in Computer Science	Sep 2018 – Aug 2020
Portland State University	Bachelor of Science in Computer Science	Jan 2015 – Jun 2018

PERSONAL PROJECTS

Deep Image Homography Estimation Jul 2020

- Re-implemented the paper “Deep Image Homography Estimation” from scratch
- Estimated a 4-point homography parameterization mapping the four corners from an image into the second image
- Achieved an average corner error of 6.003 for the train set and 6.034 for the validation set which is lower than from the original paper

Deep Essential Matrix without Correlations Jun 2020

- Utilized a convolutional network to estimate the essential matrix between two images of a monocular camera in the epipolar geometry directly, without detecting feature points (correlations)
- Achieved a small error rate of 5%

SKILLS AND INTERESTS

Skills: Proficient in Python, C++, PyTorch, OpenCV, scikit-learn, scikit-image, matplotlib, Git, NumPy, Open3D, and Trimesh. Experienced with VSCode and PyCharm

Interests: Computer vision, 3D reconstruction, 3D localization, camera calibration, deep learning

AWARDS

International Achievement Scholarship	Portland State University	2015-2018
The second place	Dong Thap Olympiad for High School Student Individual Contest in Math - Vietnam	2010 and 2011
Gold Medal	Mekong Delta Olympic in Math - Vietnam	2010
Silver Medal	Olympic 30/4 in Math - Vietnam	2009