20 Troyer Ave
Toronto M3J0A3

Hue Nguyen

1-437-601-9993
nthue189@gmail.com

Employment

| AI Engineer | VinAI | Jul 2022 - Nov 2023 |

Homezone Parking: Deployed the Visual Simultaneous Localization and Mapping (VSLAM) module in the initial product demo.
- Addressed scale ambiguity in monocular VSLAM by incorporating wheel odometry information.
- Achieved a 3x runtime reduction in extracting visual features by implementing the algorithm on CUDA.
- Developed a visualization tool for testing and debugging in cars.

Fully Automated Parking Assistant:
- Implemented temporal fused mapping module to improve mapping accuracy with noisy input.

Surrounding View Monitoring:
- Implemented a real-time four-image denoising module using OpenGL-shader.
- Deployed deep learning image enhancer on mobile with a custom 3D lookup table operator in TFLite.

| AI Resident | VinAI | Oct 2020 - Jul 2022 |

Conducted research on improving image/video quality in extreme lighting conditions
- Developed unsupervised method achieving 16 FPS inference on mobile, applied as a preprocessor to enhance face detector performance by 26% in low-light conditions.
- Published the new method at WACV 2023 and received a **Best Paper Honorable Mention Award**.

| Research Assistant | Vietnam National University | Jun 2019 - Oct 2020 |

Conducted research on automatic parallelization for C/C++ programs.
- Developed a program to identify hindering factors and published findings as a publication.
- Designed architecture and algorithms for an automatic program parallelization framework.

Education

| Toronto, Canada | York University | Jan 2024 |

- Master in Computer Science
- Research topic: AI-based image restoration.

| Hanoi, Vietnam | Vietnam National University | Sep 2017 - Jun 2021 |

- B.S in Information Technology. GPA: 3.86/4.00 (ranked 3rd in university).
- Thesis: Handwritten text generation with stroke vectorization and augmentation.

Languages and Technologies

- **Programming:** Python, C/C++, OpenGL, CUDA Programing.
- **Software & Tools:** Pytorch, Tensorflow, TFLite, OpenCV, ROS, RTI-DDS.

Additional Projects

Domain adaptation for vision tasks under adverse weather conditions: A novel input representation for deep learning models, enabling them to learn weather-invariant features..

Awards

- **First Prize, Code War Championship**. Applied complicated algorithms and data structures to solve Competitive Programming problems.
- **First Prize, FPT Digital Race - Qualifying Round**. Applied traditional image processing algorithms and path planning techiniques to program the car drive in simulated environment and race track.
- **Student with highest university entrance score**.