Nguyen Huu Hong Huy

AI Engineer | Software Engineer

+84 941551396 | huynguyen.itcs99@email.com | linkedin.com/in/huynguyenitcs
github.com/huynguyenitcs99 | Portfolio: huynguyenitcs99.vercel.app

Summary

Experienced AI Engineer with over 3 years of hands-on experience in building practical, high-impact AI systems across manufacturing, surveillance, and voice communication domains. Skilled in model optimization, system integration, and real-time deployment across edge and server platforms. Actively mentor junior engineers and thrive in collaborative, cross-functional teams. Looking to take on senior-level challenges that combine deep technical ownership with leadership responsibility.

Projects

NextSight – Industrial Defect Inspection System

Role: AI & Software Engineer — Next Robotics
Tech Stack: Python, C/C++, C#, Git, Github, CMake

- Developed and deployed a robust, real-time segmentation system across multiple factories (e.g., Hoya Disk, Hoya Lens, Tran Hiep Thanh Textile) to automate visual defect inspection.
- Engineered a high-performance inference pipeline capable of processing 3000x3000 pixel images in under 100 milliseconds, leveraging tile-based segmentation to detect defects smaller than 10 micrometers.
- Designed and implemented a cross-platform desktop application (C++/C#/Qt) integrated with industrial cameras and operator feedback loops.
- Delivered customized solutions per client, including data preprocessing, optics calibration, and class-level retraining for 6–10 defect types.
- Mentored three junior AI engineers in the full lifecycle of deployment, from data labeling to production testing.

CCTV Multi-Camera People Re-Identification System

Role: AI & Software Engineer — Next Robotics
Tech Stack: YOLOv5, RetinaFace, ArcFace, DeepStream SDK, Jetson Orin

- Contributed to the design and implementation of a multi-camera ReID system for SoftBank Japan, supporting identity tracking across non-overlapping indoor camera views.
- Integrated person detection (YOLOv5) with optional facial embeddings (RetinaFace + ArcFace) and constructed a custom feature-matching pipeline using DeepStream box outputs.
- Solved complex ReID challenges involving occlusions, appearance similarity, and missing face views.
- The system was deployed at over 30 FPS on an RTX 3090 and approximately 15 FPS on Jetson Orin, supporting real-time performance on both server and edge hardware.
- Delivered a functional system within one month, including architectural design, backend implementation, and demo preparation for stakeholders.

CrystalSound – AI-Based Noise & Echo Cancellation App

Role: AI & Software Engineer — Nami Technology
Tech Stack: Python, C/C++, C#, Wix Toolset, CI/CD, Windows driver, CMake, SpeexDSP

- Developed a cross-platform desktop application integrating virtual audio drivers and AI-powered voice enhancement (LSTM noise suppression and SpeexDSP echo cancellation).
- Designed low-latency pipelines with total system delay maintained below 200 milliseconds, ensuring compatibility with platforms such as Zoom, Google Meet, Zalo, and Skype.
- Built the Windows UI, implemented virtual audio routing, and packaged commercial releases using Wix Toolset.
- Contributed to product delivery adopted by FPT Telecom's telesales division, with consistently positive feedback on clarity and usability.
- Assisted in supervising a final-year thesis on real-time noise cancellation; the student earned a score higher than 9.5 during the final defense.

Experience

AI & Software Engineer

Next Robotics Joint-stock Company, backed by FPT Group *Jul 2022 – Present*

- Delivered AI-powered vision systems deployed in high-throughput manufacturing lines and large-scale CCTV environments.
- Liaised directly with enterprise clients (e.g., Hoya, SoftBank, Tran Hiep Thanh) to translate operational needs into scalable technical solutions.
- Spearheaded model integration and deployment on diverse hardware platforms (Jetson, RTX GPUs), ensuring performance and reliability in real-time constraints.
- Facilitated cross-functional collaboration between AI researchers, software developers, and hardware teams.
- Mentored junior engineers, conducted code reviews, and led system validation during factory acceptance tests.

AI & Software Engineer

Nami Technology Joint-stock Company, backed by FPT Group *Jun 2021 – Jul 2022*

- Contributed to the development of CrystalSound, a commercial-grade AI voice enhancement solution combining deep learning and DSP.
- Assisted in designing the audio routing infrastructure using virtual devices and played a key role in integrating real-time models into a production-ready desktop application
- Delivered consistent low-latency performance under 200 milliseconds, enabling seamless integration with leading video conferencing platforms.
- Served as AI, software, and driver engineer, collaborating closely with the QA team to ensure broad device compatibility and a smooth user experience.
- Provided technical mentorship on applied AI system design, aligning with the company's R&D goals and student research initiatives.

Technical Skills

Programming Languages: Python, C/C++, C#

Software Development: Qt, Avalonia (C#), Windows driver

Deployment Tools:: Docker, CMake, Git, CI/CD, WiX Toolset

Operating Systems: Windows, Linux (Ubuntu), NVIDIA Jetson, GPU servers (RTX series)

AI & Deep Learning Frameworks: PyTorch, ONNX, torchvision, OpenCV, NVIDIA DeepStream SDK, TensorRT

Education

Ho Chi Minh City University of Technology (HCMUT), VNU-HCM

Sep 2017 – Nov 2021

B.Eng. in Computer Science and Technology (Honors Program) *GPA: 8.24/10.0*

Relevant Courses: Mathematical Modeling (Python, C++), OOP (C++), Principles of Programming Languages (Python, Scala), Algorithms and Data Structures (C++), Software Engineering (C#), Computer Vision (Python)

References

Le Hong Trang
Product owner of NextSight team
Email address: lhtrang@hcmut.edu.vn
Next Robotics Joint Stock Company, Ho Chi Minh city

Nguyen Hoang Tho
Leader of NextSight team
Email address: tho.nguyenhoang.ai@gmail.com
Next Robotics Joint Stock Company, Ho Chi Minh city