

Han Nguyen

System Developer

tuyethan97@gmail.com | Github: TuyetHan | LinkedIn: ThanhTuyetHan Nguyen

SUMMARY

A software engineer with a Master’s degree from Aalto University and three years of experience in the automotive sector. I deeply understand the industry’s characteristics, development processes, and challenges. Highly motivated by the potential of machine learning, I am eager to further explore its applications within the automotive domain. Over the next two years, my focus will be on integrating machine learning techniques to optimize processes, enhance efficiency, and drive innovation in the automotive sector.

EXPERIENCE

- Aalto University** June 2023 - Aug 2023
Research Assistant Espoo, Finland
 - Implement MIXER logic into 4DIAC platform using C++. The work also includes designing component architecture, defining test cases, and then performing testing on Debian devices.
 - Tools: SSH, WinSCP, Cmake, Vscode, Github
- BOSCH** Feb 2019 - July 2022
Embedded System Software Developer Ho Chi Minh, Vietnam
 - Main responsible:**
 - Implement communication between ECUs using Autosar and C language. Test developed software by using official test techniques (white-box testing, black-box testing, range testing, MCDC,...) and tools such as HiL, SiL.
 - Cooperate with other developers to ensure a smooth development process. Debug, analyse reported problems and support customers when they need it.
 - Skill gains:**
 - Deep knowledge of C, Embedded System, Micro Controller, CAN Communication. Familiarise with Autosar, ASPICE.
 - Teamwork, Active Listening, Negotiation, Time management, Prioritizing, Problem Solving, Analysing, Mentoring.
 - Tools: Beyond Compare, CAPL, CAN analyser, SharCC (internal), Doors.

EDUCATION

- Eötvös Loránd University** Sep 2023 - Aug 2024
MSc in Computer Science, Autonomous Systems specialization Budapest, Hungary
 - GPA: (accumulate) 5/5
 - Main Course: 3D Sensing and Sensor Fusion, Image and Video Processing, Advance Deep Network Development, Introduction to Vehicles and Sensors
 - Thesis: Camera and LiDAR Calibration Transformer
 - Skill gains:** Distributed Training, FSDP, Data Parallel, Point cloud and image processing, Deep Learning model design.
 - Tools:** Vscode, Github, SLURM, HPC, Google Colab, SSH, VastAI.
 - Language and Library:** Python, Pytorch, torchpoint3D, OpenCV, Accelerate, FSDP.
- Aalto University** Sep 2022 - Aug 2023
Master of Science, Autonomous Systems Espoo, Finland
 - GPA: 4.74/5
 - Main Course: Sensor Fusion, Machine Learning, Deep Learning, Embedded System Development
- HCM University of Technology and Education** Sep 2022 - Aug 2023
Bachelor, Electronics and Communication Engineering Ho Chi Minh, Vietnam
 - GPA: 8.11/10
 - Thesis: Hand-writing Recognition using Deep Learning

TECHNICAL SKILLS

- Programming Languages:** Python, C/C++
- Tools and Frameworks:** Visual Studio, Github, Cmake, OpenCV, WinSCP
- Operating Systems:** Windows, Linux

PROJECTS

•Camera and LiDAR Calibration Transformer

Mar 2022 - Apr 2023

Master Thesis Project (on going)

CamLidCalib

- Design, implement, and test several transformer architectures on Point Cloud and Camera Image. The objective is not only to find intrinsic/ extrinsic parameters but rather to find the correct transformed point clouds to project on the image.
- Apply data augmentation and data processing techniques on the original Kitti dataset, creating infinite new samples. Build calibration pipeline and design evaluation metrics.
- Perform training on several platforms, such as Google Colab, HPC, VastAI or Google Cloud.

•MIXER in 4DIAC

Jun 2023 - Aug 2023

Research Assistant, Aalto Univeristy

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- Implement MIXER logic into 4DIAC platform, the main task is design component structure, coding, testing, and documentation.

•Deep Learning Basic

Jun 2023 - Aug 2023

Course Homework, Aalto Univeristy

DeepLearning

- Homework for Deep Learning Course: Implement several Deep Network architecture such as Auto Encoder, Diffusion, Transformer, GNN,..