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| [Ldtho.97@gmail.com](mailto:Ldtho.97@gmail.com)  [Tho.le1@monash.edu](mailto:Tho.le1@monash.edu) | **Duy-Tho Le** | (+61) 423169701 | |  |
| **EDUCATION** |  | |  | |
| **Melbourne, Australia** | **Monash University** | | **07/2022-Now** | |
| * PhD Candidate – Full scholarship from Department of Data Science & Artificial Intelligence. * Researching on low-level autonomous perception tasks (detection, tracking, and navigation) using Deep neural networks. | | | | |
| **Melbourne, Australia** | **Monash University** | | **03/2020-11/2021** | |
| * Master of Data Science, First-class honours (WAM 82/100). | | | | |
| **Seoul, Korea** | **Hankuk University of Foreign Studies** | | **07/2016-12/2016** | |
| * Representative of Vietnam National University as an exchange student. | | | | |
| **Ho Chi Minh city, Vietnam** | **International University- VNU** | | **2015-2019** | |
| * Major in Business Management- Business Administration. 2 times receiving encouragement scholarship for being at the top 10% of the Faculty of Business. | | | | |
| **Ho Chi Minh city, Vietnam** | **Pho Thong Nang Khieu – Highschool for the gifted – VNU** | | **2012-2015** | |
| * Bronze medal at HCMC excellent student contest (Biology). | | | | |
| **PUBLICATIONS** |  | | **Project page** | |
| * **Le, D. T.,** Pham, T., Cai, J., & Rezatofighi, H. (2025). Marginalized Generalized IoU (MGIoU): A Unified Objective Function for Optimizing Any Convex Parametric Shapes. arXiv preprint arXiv:2504.16443. ***Under review*** * **Le, D. T**., Shi, H., Cai, J., & Rezatofighi, H. (2024). DifFUSER: Diffusion Model for Robust Multi-Sensor Fusion in 3D Object Detection and BEV Segmentation. ***ECCV 2024****.* * **Le, D. T**\*., Gou, C.\*, Datta, S., Shi, H., Reid, I., Cai, J., & Rezatofighi, H. (2024). JRDB-PanoTrack: An Open-world Panoptic Segmentation and Tracking Robotic Dataset in Crowded Human Environments. ***CVPR 2024***. * Vendrow, E.\*, **Le, D. T.\***, & Rezatofighi, H. (2022). JRDB-Pose: A Large-scale Dataset for Multi-Person Pose Estimation and Tracking. ***CVPR 2023***. * **Le, D. T.**, Shi, H., Rezatofighi, H., & Cai, J. (2022). Accurate and Real-time 3D Pedestrian Detection Using an Efficient Attentive Pillar Network. *IEEE Robotics and Automation Letters (****RA-L 2022****).* | | | [*ldtho.github.io/MGIoU*](file:///Users/dlee0059/Library/CloudStorage/GoogleDrive-duy-tho.le@monashmotorsport.com/My%20Drive/GiayTo/ldtho.github.io/MGIoU)  [*ldtho.github.io/DifFUSER*](file:///Users/dlee0059/Library/CloudStorage/GoogleDrive-duy-tho.le@monashmotorsport.com/My%20Drive/GiayTo/ldtho.github.io/DifFUSER)  [*jrdb.erc.monash.edu/dataset/panotrack*](http://jrdb.erc.monash.edu/dataset/panotrack)  [*jrdb.erc.monash.edu/dataset/pose*](http://jrdb.erc.monash.edu/dataset/pose)  [*github.com/ldtho/PiFeNet*](http://github.com/ldtho/PiFeNet)  *(\* equal contribution)* | |
| **TECHNICAL EXPERIENCES** | | | | |
| Languages and Technologies:   * Knowledgeable in: Computer Vision, Generative Model, Deep learning, 2D/3D object detection and tracking, Pytorch (proficient), Tensorflow (intermediate), MySQL, Machine learning algorithms, Numpy, Pandas, PySpark. * Python (proficient) SQL (basic), R (intermediate), Spark (intermediate), Tableau (basic).   Proficient with Microsoft Office (Word, Excel, Access, PowerPoint). | | | | |
|  | **Monash University** | | **10/2021-07/2022** | |
| **Role: Research Assistant**   * Under the supervision of [Professor Jianfei Cai](https://scholar.google.com.au/citations?hl=en&user=N6czCoUAAAAJ) and [Dr. Hamid Rezatofighi](https://scholar.google.com.au/citations?user=VxAuxMwAAAAJ&hl=en) * Work on 3D object detection neural networks * Propose [PiFeNet](https://arxiv.org/abs/2112.15458), a novel 3D real-time object detector which achieved state-of-the-art performance in detecting pedestrian on KITTI and JRDB dataset. | | | | |
|  | **Monash Medical Centre** | | **04/2021-now** | |
| **Role: Casual Research Officer**   * Under the supervision of [Professor Peter Ebeling](https://scholar.google.com.au/citations?user=vSOMmgIAAAAJ&hl=en) and [Professor Jianfei Cai](https://scholar.google.com.au/citations?hl=en&user=N6czCoUAAAAJ). * Researching on attention mechanisms (multi-head attention, coordinate attention, etc.) and their application in X-ray images disease classification task. * Developing a new attention-guided neural network used in detecting atypical femur fractures from X-ray images. | | | | |
|  | **Monash Motorsport** | | **03/2020-now** | |
| **Role: Autonomous system engineer (autopilot perception)**   * Researching and building state-of-the-art real-time 3D object detection architecture using in lane and track detecting for **Formula 1 racing cars**. * Proposing Pillar Feature Net (named PiFeNet) neural network for track racing line detection from point-cloud data gathered from Velodyne and Baraja LiDAR mounted on the car, the model is trained and tested on KITTI and our in-house racing track datasets. * Applying YOLO-v4 for cones detecting from images which pipelined from 2 parallel cameras. * Ensuring both neural networks meet Formula Student Germany regulations | | | | |
|  | **Datamart Solutions** | | **04/2018-10/2018** | |
| **Role: Data engineer**   * Participate in data ETL (extract-transform-load) processes. * Develop and maintain crawlers, parsers system which crawls data from e-commerce websites (Lazada.vn, Tiki.vn, Shopee.vn,…). * Research and implement data collection/management tools from various sources. * Documenting system architecture and data management processes at a detailed level. | | | | |
| **Teaching Assistant** | **International University- VNU** | | **01/2018-06/2018** | |
| Course: Calculus II   * Helping professor Nguyen Dinh (Head of Mathematics Department) in score grading (exams and assignments) and supporting students in mathematics. * Linear algebra, Multivariable calculus, Differential, Derivatives, Matrix, Graph,… | | | | |