

# Tuyen P. Le | Resume

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## Education

<b>Kyung Hee University [Link]</b> <i>Master and Ph.D.</i> Dissertation: Deep Hierarchical Reinforcement Learning Algorithms in Partially Observable Markov Decision Processes	<b>South Korea</b> 2014/03–2019/02
<b>HoChiMinh City University of Technology [Link]</b> <i>Bachelor</i> Honor program	<b>Ho Chi Minh City</b> 2008–2013
<b>Luong Van Chanh Gifted High School</b> <i>Diploma</i> Subjects taken: Mathematics, Physics, Chemistry, English ...	<b>Phu Yen province</b> 2005–2008

## Research Interest

Apply various machine learning techniques (especially reinforcement learning) to real-world problems:

- Finance
- Logistics
- Robotics and Controls
- Manufacturing

## Experience

<b>Professional</b> .....	
<b>AgileSoDA [Link]</b> <i>Position: Full-time Researcher</i>	<b>Seoul</b> 2019–Present
<b>KMS Technology Vietnam [Link]</b> <i>Position: Software Engineer</i>	<b>Ho Chi Minh City</b> 2013–2014
<b>Miscellaneous</b> .....	
<b>Internship at Recobell (Yello Mobile) [Link]</b> <i>Position: Intern at IT department</i>	<b>Seoul City</b> 2015–2016
<b>Internship at Polliwog Corp. [Link]</b> <i>Position: Intern at IT department</i>	<b>Seongnam City</b> 2014–2015

## Honors and Awards

- 2020: Third prize DAICON competition related to manufacturing optimization (Presentation Link)
- 2008-2013: Talented engineer program (a.k.a. honor program) at HCMUT.
- 2008-2018: University Scholarship (at HCMUT and KHU).

## Talks

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- 2021: R-Conference (Video Link)
- 2019: Asian Tech Summit (Profile link)

## Scientific Community Service

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- IEEE Robotics and Automation Letters (RA-L)
- International Conference on Artificial Intelligence and Statistics (AISTATS)
- International Conference on Future Data and Security Engineering (FDSE)

## Publications [Google Scholar]

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### International Workshops.....

- [1] Tuyen P. Le. A deep decision-making framework for fraud detection. *NeurIPS*, 2019.

### International Journals.....

- [2] SeungYoon Choi, Tuyen P Le, Quang D Nguyen, Md Abu Layek, SeungGwan Lee, and TaeChoong Chung. Toward self-driving bicycles using state-of-the-art deep reinforcement learning algorithms. *Symmetry (IF:2.645)*, 11(2):290, 2019.
- [3] Md Layek, AFM Uddin, Tuyen P Le, TaeChoong Chung, Eui-Nam Huh, et al. Center-emphasized visual saliency and a contrast-based full reference image quality index. *Symmetry (IF:2.645)*, 11(3):296, 2019.
- [4] T. P. Le, N. A. Vien, and T. Chung. A deep hierarchical reinforcement learning algorithm in partially observable markov decision processes. *IEEE Access (IF:3.745)*, 6:49089–49102, 7 2018.
- [5] Tuyen P. Le, Hoang Huu Viet, Sang Hyeok An, Seung Gwan Lee, Dong-Han Kim, and Tae Choong Chung. Univector field method-based multi-agent navigation for pursuit problem in obstacle environments. *Journal of Central South University (IF:1.249)*, 24(4):1002–1012, Apr 2017.
- [6] Tuyen Pham Le, Vien Anh Ngo, P. Marlith Jaramillo, and TaeChoong Chung. Importance sampling policy gradient algorithms in reproducing kernel hilbert space. *Artificial Intelligence Review (IF:5.747)*, Oct 2017.
- [7] Hoang Huu Viet, Le Hong Trang, Le Pham Tuyen, and Taechoong Chung. A shortlist-based bidirectional local search for the stable marriage problem. *Journal of Experimental & Theoretical Artificial Intelligence (IF:2.111)*, 32(1):147–163, 2020.

### Domestic Journals.....

- [8] 최 승 윤, Tuyen P. Le, and 정 태 충. Deep deterministic policy gradient 알고리즘을 응용한 자전거의 자율 주행 제어. *Convergence Security Journal*, 18(3), 2018.

### International Conferences.....

- [9] Viet-Hung Dang, Ngo Anh Vien, Tuyen P. Le, and Taechoong Chung. A functional optimization method for continuous domains. In Yuanfang Chen and Trung Q. Duong, editors, *Industrial Networks and Intelligent Systems*, pages 254–265, Cham, 2018. Springer International Publishing.

- [10] M. A. Layek, N. Q. Thai, M. A. Hossain, N. T. Thu, Tuyen P. Le, A. Talukder, T. Chung, and E. N. Huh. Performance analysis of h.264, h.265, vp9 and av1 video encoders. In *2017 19th Asia-Pacific Network Operations and Management Symposium (APNOMS2017)*, pages 322–325, Sept 2017.
- [11] Tuyen P. Le and T. Chung. Controlling bicycle using deep deterministic policy gradient algorithm. In *2017 14th International Conference on Ubiquitous Robots and Ambient Intelligence (URAI2017)*, pages 413–417, June 2017.
- [12] Tuyen P. Le, A. Layek, N. A. Vien, and T. Chung. Deep reinforcement learning algorithms for steering an underactuated ship. In *2017 IEEE International Conference on Multisensor Fusion and Integration for Intelligent Systems (MFI2017)*, pages 602–607, Nov 2017.
- [13] Tuyen P. Le, Nguyen Dang Quang, SeungYoon Choi, and TaeChoong Chung. Learning a self-driving bicycle using deep deterministic policy gradient. In *18th International Conference on Control, Automation and Systems (ICCAS2018)*, Oct 2018.

#### Domestic Conferences.....

- [14] Tae Choong Chung and Le Pham Tuyen. Pleasure of Learning. *ICCC International Digital Design Invitation Exhibition*, :131–131, 2017.
- [15] TaeChoong Chung and Le Pham Tuyen. RLVisualizer: An application for Visualizing Trajectories of Reinforcement Learning Problem. volume , pages 13–14. The Korea Contents Society, 2017.
- [16] CholJin Jong, Seung yoon Choi, JinSeok Kim, Md. Abu Layek, Tuyen P. Le, Marlith Jaramillo, and TaeChoong Chung. Study of Sound Location Tracking Mobile Robot Using Lego Mindstorms. volume , pages 1028–1029. KOREA INFORMATION SCIENCE SOCIETY, 2016.
- [17] JinSeok Kim, Seung yoon Choi, CholJin Jong, Md. Abu Layek, Tuyen P. Le, Marlith Jaramillo, and TaeChoong Chung. Selected wireless mesh network model and architecture for a communication interruption in the fixed wireless environment. volume , pages 1265–1267. KOREA INFORMATION SCIENCE SOCIETY, 2016.
- [18] Md Abu Layek, Ngo Quang Thai, Md Alamgir Hossain, Ngo Thien Thu, Tuyen P. Le, Ashis Talukder, TaeChoong Chung, and Eui-Nam Huh. Analysis of the Effects of Timing Presets on the Performance of H.264/AVC and H.265/HEVC Video Encoders. volume , pages 442–443. Korea Institute Of Communication Sciences, 2017.
- [19] Md Abu Layek, Ngo Quang Thai, Md Alamgir Hossain, Ngo Thien Thu, Tuyen P. Le, Ashis Talukder, TaeChoong Chung, and Eui-Nam Huh. Performance Analysis of AV1 for Video Coding in Very Low Bit Rates. volume , pages 118–120. KOREA INFORMATION SCIENCE SOCIETY, 2017.
- [20] Md. Abu Layek, Seung yoon Choi, Tuyen P. Le, Marlith Jaramillo, JinSeok Kim, Jeong cheol jin, Eui-Nam Huh, and TaeChoong Chung. Compression Efficiency Of Text Images In Hangul And Other Languages. volume , pages 777–779. KOREA INFORMATION SCIENCE SOCIETY, 2016.
- [21] Tuyen P. Le, Abu Layek, Seung yoon Choi, and TaeChoong Chung. Gathering Objects in Four-rooms Domain under Partially Observability. volume , pages 865–867. KOREA INFORMATION SCIENCE SOCIETY, 2017.

- [22] Tuyen P. Le, Md. Abu Layek, Marlith Jaramillo, CholJin Jong, Seung yoon Choi, JinSeok Kim, and TaeChoong Chung. A Non-parametric policy based Algorithm in Reproducing Kernel Hilbert Space. volume , pages 892–893. KOREA INFORMATION SCIENCE SOCIETY, 2016.
- [23] Tuyen P. Le, Md. Abu Layek, CholJin Jong, Seung yoon Choi, JinSeok Kim, and TaeChoong Chung. Reinforcement Learning of Vehicle Agent and Art work Trial using the Learning Trajectories. volume , pages 719–721. KOREA INFORMATION SCIENCE SOCIETY, 2017.
- [24] Minh N. H. Nguyen, Tuyen P. Le, Nguyen H. Tran, and Choong Seon Hong. Deep Reinforcement Learning based Smart Building Energy Management. volume , pages 871–873. KOREA INFORMATION SCIENCE SOCIETY, 2017.
- [25] Seung yoon Choi, Md. Abu Layek, Tuyen P. Le, Cheoljin Jeong, Jinseok Kim, Marlith Jaramillo, and TaeChoong Chung. A Study of Sequential Workspace Management Approach for Autonomous Mobile Robot in Path Planning Problem. volume , pages 1036–1038. KOREA INFORMATION SCIENCE SOCIETY, 2016.