Tuyen P. Le | Resume

+82 (10) 2753 9011 • tuyenkhu@gmail.com • lephamtuyen
Tuyen P. Le

Education

Coursera [Link] **Online**
Professional Certificate *2022/08–2022/12*
Google Project Management

Kyung Hee University [Link] **South Korea**
Master and Ph.D. *2014/03–2019/02*
Dissertation: Deep Hierarchical Reinforcement Learning Algorithms in Partially Observable Markov Decision Processes

HoChiMinh City University of Technology [Link] **Ho Chi Minh City**
Bachelor *2008–2013*
Honor program

Luong Van Chanh Gifted High School **Phu Yen province**
Diploma *2005–2008*
Subjects taken: Mathematics, Physics, Chemistry, English ...

Research Interest

I'm interested in applying various machine learning techniques (especially reinforcement learning) to real-world problems such as finance, logistics, robotics and manufacturing.

Experience

Professional

AgileSoDA [Link] **Seoul City**
Position: Senior Researcher (Team Leader), R&D Department *2019–Present*

KMS Technology Vietnam [Link] **Ho Chi Minh City**
Position: Software Engineer, R&D Department *2013–2014*

Miscellaneous

Recobell (acquired by Yello Mobile) [Link] **Seoul City**
Position: Intern, IT department *2015–2016*

Polliwog Corp (acquired by Altair). [Link] **Seongnam City**
Position: Intern, IT department *2014–2015*

VNG Corporation. [Link] **Ho Chi Minh City**
Position: Intern, Web development devision *2012–2012*

Global CyberSoft (acquired by Hitachi). [Link] **Ho Chi Minh City**
Position: Intern, R&D Department *2012–2012*

FPT Information System (FIS). [Link] **Ho Chi Minh City**
Position: Intern, Solution Division *2011–2011*

Honors and Awards

- 2022: Top-10 finalist Golden Globe Science and Technology Award 2022 (Link)
- 2020: Third prize DACON competition related to manufacturing optimization (Link)
- 2008-2013: Talented engineer program (a.k.a. honor program) at HCMUT.
- 2008-2019: University scholarship from HCMUT and KHU.

Talks

- 2019: Asian Tech Summit (Link)

Scientific Community Service

Here is the list of conferences and journals, which I have served as a reviewer:

- IEEE Robotics and Automation Letters (RA-L)
- International Conference on Artificial Intelligence and Statistics (AISTATS)
- IEEE Access
- IEEE Conference on Systems, Man, and Cybernetics (IEEE SMC)
- International Conference on Ubiquitous Robots (UR)
- International Conference on Future Data and Security Engineering (FDSE)

Computer skills

Programming Languages: Python, Java, C++, C#, Matlab, Javascript, Git
Libraries: Deep Learning (Tensorflow, Pytorch), Jupyter, OpenCV, Anaconda
Tools: Pycharm, Visual Studio, Eclipse, Visual Code, Docker, MySQL
Platforms: Window, Mac, Ubuntu, AWS, iOS, Android

Publications

2022

[1] **[IP] 르 팜 투옌**, 민예린, 김준호, 윤도균, and 최규원. Apparatus and method for reinforcement learning based on user learning environment in semiconductor design. KR(10-2413005), Jun 2022.

[2] **[IP] 르 팜 투옌**, 민예린, 김준호, 윤도균, and 최규원. Reinforcement learning apparatus and method for optimizing position of object based on semiconductor design data. KR(10-2416931), Jun 2022.

[3] **[IP] 르 팜 투옌** and 윤도균. System and method for designing integrated circuits based on deep reinforcement learning using partitioning. KR(10-2454202), Oct 2022.

[4] **[IP]** 노철균, 민예린, 이성령, **르 팜 투옌**, and 이동현. Apparatus and method for controlling ambient air vaporizer using reinforcement learning. KR(10-2474995), Dec 2022.

[5] **[IP]** 이성령, **르 팜 투옌**, and 김동석. Reinforcement learning apparatus and method for multiple classification. KR(10-2458103), Oct 2022.

[6] **[IP]** 이성령, **르 팜 투옌**, and 이승준. Reinforcement learning device and method for establishing path based on multiple agents. KR(10-2458105), Oct 2022.

2021

[7] **[Conf] Tuyen P. Le**, DongHyun Lee, and DaeWoo Choi. A deep reinforcement learning-based application framework for conveyor belt-based pick-and-place systems using 6-axis manipulators under uncertainty and real-time constraints. In *2021 18th International Conference on Ubiquitous Robots (UR)*, pages 464–470, 2021.

[8] **[IP] 르 팜 투옌**, 노철균, 이성령, and 민예린. Hierarchical decision agent. KR(10-2169876), Jun 2021.

[9] **[IP] 르 팜 투옌**, 노철균, 이성령, 민예린, 이동수, and 정석규. Apparatus and method for generating decision agent. KR(10-2257082), May 2021.

[10] **[IP] 르 팜 투옌** and 이동현. Deep reinforcement learning apparatus and method for pick and place system. KR(10-2416931), Dec 2021.

[11] **[SCI] Tuyen P. Le**, Cheolkyun Rho, Yelin Min, Sungreong Lee, and Daewoo Choi. A2gan: A deep reinforcement-based learning algorithm for risk-aware in finance. *IEEE Access (**IF:3.367**)*, 9:137165–137175, 2021.

2020

[12] **[IP] 투옌**, 노철균, and 민예린. System and method for classifying base on generative adversarial network using labeled data. KR(10-2093079), Mar 2020.

[13] **[IP] 투옌**, 노철균, and 민예린. System and method for classifying base on generative adversarial network using labeled data and unlabled data. KR(10-2093080), Mar 2020.

[14] **[IP]** 노철균, 민예린, and **투옌**. System and method for classifying fraudulent loans based on reinforcement learning. KR(10-2148880), Aug 2020.

[15] **[IP]** 노철균, 민예린, and **투옌**. System and method for classifying payments based on reinforcement learning. KR(10-2105276), Oct 2020.

[16] **[IP]** 노철균, 이성령, 민예린, and **르 팜 투옌**. Apparatus and method for performing reinforcement learning using conditional episode composition. KR(10-2169876), Oct 2020.

[17] **[SCI]** Hoang Huu Viet, Le Hong Trang, **Tuyen P. Le**, and Taechoong Chung. A shortlist-based bidirectional local search for the stable marriage problem. *Journal of Experimental & Theoretical Artificial Intelligence(**IF:2.340**)*, 32(1):147–163, 2020.

2019

[18] **[Conf]** Quang Dang Nguyen, Luan N. T. Huynh, **Tuyen P. Le**, and TaeChoong Chung. Ontology-based recommender system for sport events. In Sukhan Lee, Roslan Ismail, and Hyunseung Choo, editors, *Proceedings of the 13th International Conference on Ubiquitous Information Management and Communication (IMCOM) 2019*, pages 870–885, Cham, 2019. Springer International Publishing.

[19] **[Conf]** Quang Dang Nguyen, Ngo Anh Vien, **Tuyen P. Le**, SeungYoon Choi, A. F. M. Shahab Uddin, and TaeChoong Chung. Optimization to Task Bundle Processing for Multi-Access Edge Computing Systems. *Korea Computer Science Conference*, :255–257, 2019.

[20] **[SCI]** 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:2.713**)*, 11(3):296, 2019.

[21] **[SCI]** 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:2.713**)*, 11(2):290, 2019.

[22] **[Workshop] Tuyen P. Le**, Cheolkyun Rho, Yelin Min, Yong Cha, and Daewoo Choi. A deep decision-making framework for fraud detection. *Workshop on Robust AI in Financial Services: Data, Fairness, Explainability, Trustworthiness, and Privacy, NeurIPS*, 2019.

2018

[23] **[Conf] 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.

[24] **[Conf]** 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.

[25] **[KCI]** 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.

[26] **[SCI] Tuyen P. Le**, N. A. Vien, and T. Chung. A deep hierarchical reinforcement learning algorithm in partially observable markov decision processes. *IEEE Access (**IF:3.367**)*, 6:49089–49102, 7 2018.

2017

[27] **[Conf]** 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.

[28] **[Conf]** 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.

[29] **[Conf]** 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.

[30] **[Conf]** 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.

[31] **[Conf]** Tae Choong Chung and **Tuyen P. Le**. Pleasure of Learning. *ICCC International Digital Design Invitation Exhibition*, :131–131, 2017.

[32] **[Conf]** TaeChoong Chung and **Tuyen P. Le**. RLVisualizer: An application for Visualizing Trajectories of Reinforcement Learning Problem. volume , pages 13–14. The Korea Contents Society, 2017.

[33] **[Conf] 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.

[34] **[Conf] 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.

[35] **[Conf] 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.

[36] **[Conf] 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.

[37] **[SCI] Tuyen P. Le**, Vien Anh Ngo, P. Marlith Jaramillo, and TaeChoong Chung. Importance sampling policy gradient algorithms in reproducing kernel hilbert space. *Artificial Intelligence Review (**IF:8.139**)*, Oct 2017.

[38] **[SCI] 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:1.716**)*, 24(4):1002–1012, Apr 2017.

2016

[39] **[Conf]** 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.

[40] **[Conf]** 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.

[41] **[Conf]** 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.

[42] **[Conf]** 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.

[43] **[Conf] 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.