

Tuyen P. Le | Resume

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*"In the End, we will remember not the words of our enemies,
but the silence of our friends." Martin Luther King, Jr.*

Education

Kyung Hee University <i>Master and PhD, 4.14/5.0</i> Research Topics: Deep Reinforcement Learning, Machine Learning, Robotics	South Korea 2014–2019
Bach Khoa University <i>Bachelor, 8.46/10.0</i> Honor program	Ho Chi Minh City 2008–2013
Luong Van Chanh Gifted High School <i>Diploma, 9+/10</i> Subjects taken: Mathematics, Physics, Chemistry, English ...	Phu Yen province 2005–2008

PhD dissertation

Title: *Deep Hierarchical Reinforcement Learning Algorithm in Partially Observable Markov Decision Processes*

Supervisors: TaeChoong Chung

Abstract: In recent years, reinforcement learning has achieved many remarkable successes due to the growing adoption of deep learning techniques and the rapid growth in computing power. Nevertheless, it is well-known that flat reinforcement learning algorithms are often not able to learn well and data-efficient in tasks having hierarchical structures, e.g. consisting of multiple subtasks. Hierarchical reinforcement learning is a principled approach that is able to tackle these challenging tasks. On the other hand, many real-world tasks usually have only partial observability in which state measurements are often imperfect and partially observable. The problems of RL in such settings can be formulated as a partially observable Markov decision process (POMDP). In this paper, we study hierarchical RL in POMDP in which the tasks have only partial observability and possess hierarchical properties. We propose a hierarchical deep reinforcement learning approach for learning in hierarchical POMDP. The deep hierarchical RL algorithm is proposed to apply to both MDP and POMDP learning. We evaluate the proposed algorithm on various challenging hierarchical POMDP.

Key words: Hierarchical Deep Reinforcement Learning, Partially Observable MDP (POMDP), Semi-MDP, Partially Observable Semi-MDP (POSMDP)

Experience

Professional.....

Software Engineer at KMS Technology Vietnam

Ho Chi Minh City

2013–2014

Ranked: Top 26 best work places in Vietnam

Website: <https://www.kms-technology.com/>

Description: Develop some mobile applications (iOS and Android).

Miscellaneous.....

Internship at Recobell

Seoul City

2015–2016

Website: <http://www.recobell.com/rb/>

Description: Develop mobile applications (iOS and Android).

Internship at polliwog Corp.

Seongnam City

2014–2015

Website: <http://www.polliwogeda.com/xenew/>

Description: Develop algorithm (C++) to find a shortest path in a Printed Circuit Board (PCB).

Internship at VNG Corp.

Ho Chi Minh City

2012–2013

Website: <https://vng.com.vn/>

Description: Work in a group to develop a website using state-of-the-art technologies.

Languages

Korean: Intermediate level

Read, Write, Speak (simple form)

English: Influence

Second language

Vietnamese: Influence

Mother language

Computer skills

Programming Languages: C++, Java, Python, Objective-C, Swift, Matlab, Latex

Tools: Visual Studio, Matlab, Pycharm, Eclipse, XCode, Texmaker

Libraries: Cocoa, OpenCV, Tensorflow, Matplotlib, ROS, Gym AI

Miscellaneous: Adobe Photoshop, Adobe Lightroom. ...

References

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Publications

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- [6] 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 (MFI)*, pages 602–607, Nov 2017.
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