

Teaching Portfolio

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Pedagogical philosophy

The opportunity to teach and interact with students is one of my goals since this allows me to give my experience to them, helping to guide their work from which also my research benefits. I believe as a teacher it is my responsibility to not only provide the contents of a given subject to the students but also to challenge and support them with four learning goals:

- (1) learn the concepts of the subject;
- (2) counteract misconceptions;
- (3) guide them to be able to criticize and discuss all aspects of the concept, and
- (4) cultivate an interest and guide them into science and technology.

In addition to this, I also want my students to leave my course with the necessary skills that enable them to apply what they have learned to other related problems. As teaching means, I usually employ lectures, seminars, and practices. Specifically, I use lectures and seminars for large and medium class sizes, respectively, while I combine lectures with practices for a small class size. For an online lecture, I usually use online tools (like Kaltura, Zoom, and Blackboard) together with a digital drawing tablet to express and clearly convey my message and idea.

I usually use a combination of quiz or written exam, student presentation, and particular tasks using simulation or real hardware systems to determine whether my objectives for student learning are met and to see whether students are able to use knowledge and skills obtained from the course as building blocks to solve more complex tasks or other applications. In addition to this, balancing teaching materials is an important point. My strategy is not to overfill the students. Instead, I try to teach them how, where, and what to learn. Education is the process of shaping the way of thinking. To do so, I first try to get their basic knowledge about subject or course and then sharpen their thinking and understanding in a simple way by using examples and demonstrations (like animation), rather than directly giving them complex mathematical equations or formula. At the same time, to make the learning process a pleasure, I always motivate my class by asking "why we need to learn this part" and "what the relationship is between this part and other parts". Sometimes, I also ask the class some "what if" questions during or at the end of the course. I also try to let them to see the "big picture" of the subject and keep them on track while the course progresses by shortly introducing what we have learned (a recap of previous lecture) before starting a new content.

Teaching experience

I have taught for over 7 years within the educations of: robotics, artificial intelligence, machine learning, and control theory. My courses and invited/guest lectures are listed below. Furthermore, I have taught on average approx. one course per semester in a class of students from approx. 10 to 70.

Human-Robot Interaction for Medical Robotics (Online lecture)

Poramate Manoonpong (Guest lecturer)
2020

Embodied neural mechanisms for adaptive, versatile, autonomous behaviors of bio-inspired walking robots

Poramate Manoonpong (Guest lecturer)
23. Dec 2019

NEUTRON: NEUrorobotic Technology for advanced Robot mOtor control

Poramate Manoonpong (Guest lecturer)
7. Jun 2019

Mathematics and Robotics: From Numbers to Complex Robot Behaviors & Learning

Poramate Manoonpong (Guest lecturer)
15. May 2019

Embodied neural mechanisms for adaptive, versatile, autonomous behaviors of bio-inspired walking robots

Poramate Manoonpong (Guest lecturer)

11. Apr 2019

DLife: Dung beetle-inspired robot development

Poramate Manoonpong (Guest lecturer)

2019

NEUrorobotic Technology for advanced Robot mOtor control (NEUTRON)

Poramate Manoonpong (Guest lecturer)

4. Dec 2018

Bio-inspired Artificial Intelligence for Service Robots

Poramate Manoonpong (Guest lecturer)

21. Nov 2018 → 24. Nov 2018

Robotic technology for the elderly and the disabled

Poramate Manoonpong (Guest lecturer)

1. Jun 2018

Neural locomotion control of walking robots

Poramate Manoonpong (Guest lecturer)

18. May 2018

Exploiting frictional anisotropy from a scale-like material for energy-efficient robot locomotion

Poramate Manoonpong (Guest lecturer)

13. Dec 2017 → 17. Dec 2017

From a dung beetle to a multifunctional robot: A bio-inspired approach

Poramate Manoonpong (Guest lecturer)

29. Oct 2017

Exploiting frictional anisotropy from a passive scale-like material for energy-efficient locomotion of a bio-inspired walking robot

Poramate Manoonpong (Guest lecturer)

28. Jun 2017

Building neural circuits for bio-inspired bodies

Poramate Manoonpong (Guest lecturer)

15. Jun 2017

Enhanced Locomotion Efficiency of a Bio-inspired Walking Robot using Contact Surfaces with Frictional Anisotropy

Poramate Manoonpong (Guest lecturer)

13. Jun 2017 → 14. Jun 2017

Bio-inspired Robotics: From Biology to Technology

Poramate Manoonpong (Guest lecturer)

5. Jan 2017

Intelligent Robots: Machines that Act, Learn, and Adapt by themselves

Poramate Manoonpong (Lecturer)

8. Dec 2016

Embodied AI & Neurorobotics

Poramate Manoonpong (Lecturer)
25. Nov 2016

Learning from a Dung beetle to Advance Robot Development

Poramate Manoonpong (Lecturer)
10. Nov 2016

Bio-inspired adaptive combinatorial learning for goal-directed behaviors

Poramate Manoonpong (Lecturer)
8. Nov 2016

Embodied neural mechanisms for adaptive, versatile, autonomous behaviors of bio-inspired walking robots

Poramate Manoonpong (Lecturer)
28. Sept 2016

Exploiting Neural Mechanisms: "From neural dynamics and synaptic plasticity to adaptive locomotion: An embodied neural computation approach"

Poramate Manoonpong (Speaker)
23. Aug 2016

Biologically inspired robots

Poramate Manoonpong (Lecturer)
5. Jun 2016 → 9. Jun 2016

Reinforcement Learning

Poramate Manoonpong (Lecturer)
14. Apr 2016

Locomotion in invertebrates and robots

Poramate Manoonpong (Other)
9. Mar 2016

Tools of Artificial intelligence (RMAI2-U1)

Poramate Manoonpong (Lecturer)
5. Feb 2016 → ...

Embodied neural computation for locomotion and navigation of insect-like robots

Poramate Manoonpong (Lecturer)
21. Jan 2016

Bio-inspired robotics for the factory of the future

Poramate Manoonpong (Speaker)
15. Dec 2015

Sharing experience & knowledge

Poramate Manoonpong (Speaker)
14. Dec 2015

From Neural Dynamics and Synaptic Plasticity to Complex Behaviors: An Embodied Neural Computation Approach

Poramate Manoonpong (Lecturer)
18. Nov 2015

Neural Dynamics and Synaptic Plasticity

Poramate Manoonpong (Lecturer)
18. Nov 2015

Building neural circuits for complex behaviors of walking robots

Poramate Manoonpong (Lecturer)
17. Nov 2015

Neural Control, Learning, and Memory for Complex Behaviors of Bio-inspired Walking Machines

Poramate Manoonpong (Speaker)
2. Nov 2015

Embodied Artificial Intelligence

Poramate Manoonpong (Other)
Nov 2015 → Feb 2016

Plasticity in a recurrent neural network for complex behaviors of a walking robot

Poramate Manoonpong (Speaker)
28. Oct 2015

Self-organized sensorimotor coordination for adaptive locomotion of artificial behaving machines

Poramate Manoonpong (Lecturer)
27. Oct 2015

Adaptive Embodied Locomotion Control Systems (RMAI3-U1)

Poramate Manoonpong (Lecturer)
4. Sept 2015 → ...

Project in Artificial Intelligence (RMAI4-U1)

Poramate Manoonpong (Lecturer)
Sept 2015 → ...

Robotic technology

Poramate Manoonpong (Speaker)
3. Aug 2015

How to do research

Poramate Manoonpong (Lecturer)
Aug 2015 → ...

Bio-inspired robotics

Poramate Manoonpong (Lecturer)
22. Jul 2015

Bio-inspired robotics

Poramate Manoonpong (Lecturer)
14. Jul 2015

Multiple Decoupled CPGs with Local Sensory Feedback for Adaptive Locomotion Behaviors of Bio-inspired Walking Robots

Poramate Manoonpong (Speaker)
29. May 2015

Embodied Artificial Intelligence Workshop

Poramate Manoonpong (Speaker)

11. May 2015

Reinforcement Learning

Poramate Manoonpong (Lecturer)

22. Apr 2015

Tools of Artificial intelligence (RMAI2-U1)

Poramate Manoonpong (Lecturer)

6. Feb 2015 → ...

Bio-inspired Robots

Poramate Manoonpong (Lecturer)

8. Jan 2015

Neural Control, Learning, and Memory of Bio-inspired Walking Robots

Poramate Manoonpong (Lecturer)

18. Dec 2014

Neural Control, Learning, and Memory for Complex Behaviors of Autonomous Walking Robots

Poramate Manoonpong (Lecturer)

21. Nov 2014

Adaptive Embodied Locomotion Control Systems (RMAI3-U1)

Poramate Manoonpong (Lecturer)

2014 → ...

Tools of Artificial intelligence (RMAI2-U1)

Poramate Manoonpong (Lecturer)

2014 → ...

Supervision experience

Bachelor, Master, PhD supervisions

Poramate Manoonpong

01/01/2012 → ...

See the list from <http://www.manoonpong.com/StudentProjects.pdf>

Pedagogical education and teaching qualifications

Teaching in English at SDU. 2016-11

Presentation Techniques in English at SDU. 2014-11

Teaching in English at SDU, at level C1 in spoken English

Other Pedagogical Experience

2018, Give a workshop on Advanced Human-Machine Interaction for Improving Quality of Life and Health at the 22nd International Computer Science and Engineering Conference (ICSEC 2018), November 21 (full-day) 2018.

2018, Give a workshop on Biology-inspired robotics and Robotics-inspired Biology (BIRRRIB) at SAB2018: Frankfurt, Germany, 14.08. 2018.

2017, Give a workshop on Bio-inspired control for interlimb coordination and adaptation in legged robots at SWARM 2017: The Second International Symposium on Swarm Behavior and Bio-Inspired Robotics, Kyoto, Japan, 29.10.2017.

2017, Give a workshop on Bio-inspired Robotics, Century Park Hotel, Bangkok, Thailand, 24.06.2017 (program in Thai) (supported by OHEC Thailand) (registration link).

2016, Give a tutorial on Exploiting Soft Materials, Biomechanical Structures, and Neural Mechanisms for Adaptive Locomotion at The 14th International Conference on the Simulation of Adaptive Behavior (SAB2016), Aberystwyth, UK, 23.08.2016.

2015, Give a workshop on Robot technology and supply chain for the factory of the future, organized together with Trisak Group under the RETURN project, Swissotel Nai Lert Park Bangkok, Thailand, 15.12.2015.

2013, Give a robotic workshop at Girls' Day & Boys' Day - Zukunftstag fuer Maedchen und Jungen-Maedchen-Zukunftstag at Bernstein Center for Computational Neuroscience (BCCN), University of Göttingen, Germany

2015, Give a workshop on Embodied sensorimotor interaction: from locomotion to collective behavior at SWARM 2015: The First International Symposium on Swarm Behavior and Bio-Inspired Robotics, Kyoto, Japan, 28.10.2015.

2008-2012, Give a robotic workshop at Girls' Day-Mädchen-Zukunftstag at Bernstein Center for Computational Neuroscience (BCCN), University of Göttingen, Germany

Activities

Frontiers in Robotics and AI (Journal)

Poramate Manoonpong (Peer reviewer)
2020

Frontiers in Neurorobotics (Journal)

Poramate Manoonpong (Peer reviewer)
2019

Adaptive Behavior (Journal)

Poramate Manoonpong (Peer reviewer)
2018

Frontiers in Neurorobotics (Journal)

Poramate Manoonpong (Peer reviewer)
2018

The 2nd International Youth Conference of Bionic Engineering (IYCBE2018)

Poramate Manoonpong (Participant)
2018

The first joint workshop on Biology-inspired robotics and Robotics-inspired Biology (BIRRB)

Poramate Manoonpong (Participant)
2018

Workshop on Bio-inspired Robotics

Jørgen Christian Larsen (Organizer) & Poramate Manoonpong (Organizer)
24. Jun 2017

Exploiting Soft Materials, Biomechanical Structures, and Neural Mechanisms for Adaptive Locomotion: Lessons Learned From Nature

Poramate Manoonpong (Organizer)
23. Aug 2016

The 14th International Conference on the Simulation of Adaptive Behavior

Jørgen Christian Larsen (Organizer) & Poramate Manoonpong (Organizer)
23. Aug 2016

Research topic on Neural Computation in Embodied Closed-Loop Systems for the Generation of Complex Behavior: From Biology to Technology (Journal)
Poramate Manoonpong (Editor)
2016

Locomotion in invertebrates and robots
Poramate Manoonpong (Participant)
25. Nov 2015 → 26. Nov 2015

PhD thesis examiner
Poramate Manoonpong (Advisor)
19. Nov 2015

Embodied sensorimotor interaction: from locomotion to collective behavior workshop
Poramate Manoonpong (Organizer)
28. Oct 2015

Christian-Albrechts-University Kiel
Poramate Manoonpong (Visiting researcher)
1. Oct 2015 → 29. Feb 2016

King Mongkut's University of Technology Thonburi (KMUTT)
Poramate Manoonpong (Visiting researcher)
21. Jun 2015 → 17. Aug 2015

Bachelor thesis co-supervisor & co-examiner
Poramate Manoonpong (Advisor)
2015

Frontiers in Neurorobotics (Journal)
Poramate Manoonpong (Associate editor)
2015 → ...

Frontiers in Neurorobotics (Journal)
Poramate Manoonpong (Associate editor)
2015

Advances in Robotics Research (Journal)
Poramate Manoonpong (Member of editorial review board)
2013 → ...

International Journal of Advanced Robotic Systems (Journal)
Poramate Manoonpong (Member of editorial review board)
2013 → ...