

# D.H. PHUONG NGUYEN, PHD

## Robotics Researcher

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🐙 [github.com/towardthesea](https://github.com/towardthesea)



## EXPERIENCE

### Postdoctoral Research Associate

[Knowledge Technology Group, Department of Informatics, University of Hamburg](#)

📅 Feb 2019 – ongoing 📍 Hamburg, Germany

- Learning and transfer learning for different robotics tasks.

### Robotics Researcher & PhD Fellow

[iCub Facility, Istituto Italiano di Tecnologia](#)

📅 Jan 2016 – Jan 2019 📍 Genova, Italy

- Develop new perception and sensorimotor capabilities of iCub

### Academic Visitor

[Personal Robotics Lab., Imperial College London](#)

📅 Oct 2017 – Dec 2017 📍 London, UK

- Develop visuomotor learning algorithm for iCub

### Collaborative Researcher

[DIBRIS, Univ. of Genova](#)

📅 Sept 2015 – Dec 2015 📍 Genova, Italy

- Develop control and planning algorithm for UAV, SAFEMAP project

### Research Student

[Laboratorium, Univ. of Genova](#)

📅 Feb 2015 – Sept 2015 📍 Genova, Italy

### Lecturer

[Faculty of Elec. Eng., Da Nang Univ. of Science & Tech.](#)

📅 Nov 2010 – Jan 2016 📍 Da Nang, Vietnam

- Teaching & Research assistant in Embedded System, Control

### Intern

[Van Thanh Medical Instruments Company](#)

📅 Nov 2009 – Dec 2009 📍 Da Nang, Vietnam

### Intern

[Pleikrong Hydropower Plant](#)

📅 Jun 2009 – Aug 2009 📍 Kontum, Vietnam

## SCHOLARSHIPS & AWARDS

### Marie Curie Early Stage Researcher Fellowship

[European Commission](#) 📅 2016 – Jan. 2019

### Winner of KUKA Innovation Award 2018 (team CoAware)

[KUKA](#) 📅 Apr, 2018

### Erasmus Mundus Scholarship

[EMARO Program](#) 📅 2013 – 2015

## RESEARCH INTERESTS

- Hierarchical and transferable reinforcement learning for robotics.
- Sensorimotor competences development in humanoid robotics.
- Machine learning for robotics.
- Control, Motion planning and Embedded system.

## EDUCATION

### PhD. in Bioengineering & Robotics

[Istituto Italiano di Tecnologia, Italy](#)  
[University of Genova, Italy](#)

📅 Jan 2016 – Apr 2019

### M.S. in Advanced Robotics

[University of Genova, Italy](#)  
[Ecole Centrale de Nantes, France](#)

📅 Sept 2013 – Sept 2015

### B.Eng. in Electrical Engineering

[Da Nang University of Tech., Vietnam](#)

📅 Sept 2005 – June 2010

## TECH. SKILLS

### Programming

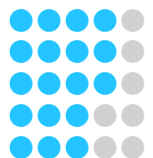
C/C++

ROS/YARP/OpenCV

Matlab/Simulink

Python

Tensorflow/Keras



### Robots

Khepera III Firefly Pelican Puma

Baxter iCub Reem-C KUKA

### MPU/MCU

Microchip PIC/dsPIC Cypress PSoC

Atmel 8051 TI DSP/Stellaris

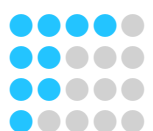
## LANGUAGES

English

French

Italian

German



Shinco Technos Scholarship for Excellent Students of Da Nang Univ. of Tech.

[Shinco Technos Co.Ltd, Japan](#) 📅 2009

Odon Vallet Scholarship for Vietnamese Excellent Students

[Rencontres Du Vietnam](#) 📅 2007 & 2008

## PROJECTS

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Ideomotor transfer for active self-emergence (IDEAS).

📅 Feb, 2019 – ongoing

KUKA Innovation Award 2018.

📅 Nov, 2017 – Apr, 2018

SECURE European Project.

📅 Jan, 2016 – ongoing

WYSIWYD European Project.

📅 Jan, 2016 – Feb, 2017

Real-time Path Generation and Control with obstacles avoidance of Multicopters - Toward Autonomous Aerial Vehicles for Search and Rescue.

📅 2015

Monitoring and controlling Baxter robot with Oculus Drift.

📅 2014

Developing ROS (Robot Operating System) stack and localization ability for Khepera III mobile robot (K-team).

📅 2014

## PUBLICATIONS

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### Journal Articles

- Kim, Wansoo et al. (2019). “A Reconfigurable and Adaptive Human-Robot Collaboration Framework for Improving Worker Ergonomics and Productivity”. In: *IEEE Rob. Autom. Mag.*
- Fischer, Tobias et al. (2018). “iCub-HRI: A Software Framework for Complex Human–Robot Interaction Scenarios on the iCub Humanoid Robot”. In: *Frontiers in Robotics and AI* 5, p. 22.
- Moulin-Frier, C. et al. (2017). “DAC-h3: A Proactive Robot Cognitive Architecture to Acquire and Express Knowledge About the World and the Self”. In: *IEEE Transactions on Cognitive and Developmental Systems*.
- Nguyen, Phuong D. H. et al. (2017). “Real-Time Path Generation and Obstacle Avoidance for Multirotors: A Novel Approach”. In: *Jour. of Intelligent & Robotic Systems*, pp. 1–23.

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### Conference Proceedings

- Nguyen, Phuong D. H. et al. (2019). “Reaching development through visuo-proprioceptive-tactile integration on a humanoid robot - a deep learning approach”. In: *2019 Joint IEEE Int. Conf. on Development and Learning and Epigenetic Robotics (ICDL-EpiRob)*. IEEE.
- Nguyen, Phuong D. H., Fabrizio Bottarel, et al. (2018). “Merging physical and social interaction for effective human-robot collaboration”. In: *Humanoid Robots (Humanoids), 2018 IEEE-RAS 18th Int. Conf. on*. IEEE, pp. 710–717.

## REFEREES

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**Prof. Giorgio Metta**

@ giorgio.metta@iit.it

✉ iCub Facility, Istituto Italiano di Tecnologia, Genova, Italy

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**Dr. Ugo Pattacini**

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✉ iCub Facility, Istituto Italiano di Tecnologia, Genova, Italy

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**Prof. Antonio Sgorbissa**

@ antonio.sgorbissa@unige.it

✉ Laboratorium, Università degli Studi di Genova, Genova, Italy

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**Prof. Garcia Gaetan**

@ gaetan.garcia@ec-nantes.fr

✉ Robotics group, IRCCyN, Ecole Centrale de Nantes, Nantes, France

- Nguyen, Phuong D. H., Tobias Fischer, et al. (2018). "Transferring Visuomotor Learning from Simulation to the Real World for Robotics Manipulation Tasks". In: *2018 IEEE/RSJ Int. Conf. on Intelligent Robots and Systems*. IEEE, pp. 6667–6674.
- Nguyen, Phuong D. H., Matej Hoffmann, Alessandro Roncone, et al. (2018). "Compact Real-time Avoidance on a Humanoid Robot for Human-robot Interaction". In: *The 2018 ACM/IEEE Int. Conf. on Human-Robot Interaction*. ACM, pp. 416–424.
- Nguyen, Phuong D. H. et al. (2016a). "A fast heuristic Cartesian space motion planning algorithm for many-DoF robotic manipulators in dynamic environments". In: *Humanoid Robots (Humanoids), 2016 IEEE-RAS 16th Int. Conf. on*. IEEE, pp. 884–891.
- Nguyen, Phuong D. H. et al. (2016b). "Real-time path generation for multicopters in environments with obstacles". In: *2016 IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*. IEEE, pp. 1582–1588.