

## Curriculum Vitae

Piyarat Silapasuphakornwong, Ph.D.

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ภาควิชาวิทยาศาสตร์ทางภาพถ่ายและเทคโนโลยีทางการพิมพ์

คณะวิทยาศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย



Ph.D. Imaging Science

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### **PERSONAL PROFILE**

**Date of Birth** 02.02.1984

**Nationality** Thai

**Spouse Status** Single

**Address**

*Hometown* : 373/4 Trok Saphanyao Charoungkrung Rd. Sripraya, Bangrak, Bangkok, Thailand.

She received her B.Sc. (2<sup>nd</sup> honors) and Ph.D. in Imaging Science from Department of Imaging and Printing Technology, Faculty of Science, Chulalongkorn University, Bangkok, Thailand (in March 2007 and May 2013). She has kept experiences in fields of computer science and multimedia for more than 17 years ago (since A.D.2000). She had researched in fields of image processing, computer vision, and human-computer interaction. She is currently engaged in research on 3D-printing, human action with a virtual 3D object, and copyright protection in video scheming. She is always interested in the news of science and technology. She appreciates in arts and fascinates in innovations. She likes to play video games since she was young and followed the game development progress continuously. She is enthusiastic to improve her work and always update herself. She is ready and able to work on own initiative or as part of a team and can deal with administrative duties competently.

### **EDUCATION**

2008-2013 **Doctoral's Degree in Imaging Science** from Faculty of Science, Chulalongkorn University (GPA: 3.92 / 4.00)

2003-2007 **The 2<sup>nd</sup> class honor of Bachelor's Degree in Imaging Science** and Printing Technology from Faculty of Science, Chulalongkorn University (GPA: 3.34 / 4.00)

1997-2003 **Graduated in High School from Patumwan Demonstration School** : Srinakharinwirot University (GPA: 3.64 / 4.00)

## **SCHOLARSHIPS and AWARDS**

- 2016 - **Best Paper Award** in The Eighth International Conferences on Advances in Multimedia (mmedia 2016), Lisbon, Portugal
- 2008-2012 - **The 72<sup>nd</sup> Anniversary of His Majesty King Bhumibol Adulyadej Scholarships** from Chulalongkorn University
- **Research supporting Scholarship of The 90<sup>th</sup> Anniversary of Chulalongkorn University Fund.** (Ratchadaphisksomphot Endowment Fund.) from Chulalongkorn University
- 2010-2012 **Research supporting Scholarship of Center of Excellence in Mathematics** from Mahidol University
- 2010 **Ph.D. Colloquia Award** in the IEEE International Conference on Machine Learning and Cybernetics (ICMLC) and the International Conference on Wavelet Analysis and Pattern Recognition (ICWAPR) 2010 at Qingdao, China
- 2006 The 2<sup>nd</sup> order prize of **Junior Inventor Award 2006** from Faculty of Science, Chulalongkorn University
- 2002 A participation of **Practical Workshop Competition on Computer Programming** from Institute of Technology- King Mongkut's University of Technology Thonburi
- 2002-2004 **Good Student Awards** and **Merit Awards of computer club** from Patumwan Demonstration School : Srinakharinwirot University
- 2000-2001 A participant of **Olympic Computer Science Camp** of The Promotion of Academic Olympiad and Development of Science Education Foundation under the patronage of Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra
- 1<sup>st</sup> Camp** : at Faculty of Science, King Mongkut's Institute of Technology Ladkrabang
- 2<sup>nd</sup> Camp**: at Faculty of Science, Thammasat University

## **EXPERIENCES / INTERNSHIPS**

- 2013-2016 **Post-doctoral research fellow of Human Media Research Center**, Kanagawa Institute of Technology, Japan.
- 2013 **Research Assistance of Bangkok University : Multimedia Intelligent Technology (BU-MIT)** Research center, School of Science and Technology, Bangkok University
- 2009-2013 **Researcher of Advanced Virtual and Intelligent Computing (AVIC) research center**, Department of Mathematics and Computer Science, Faculty of Science, Chulalongkorn University

- 2010-2013 **Research Assistance of Center of Excellence in Mathematics**, Mahidol University
- 2010-2012 **Teacher Assistance of Color Technology Laboratory** (2313338), Department of Imaging and Printing Technology, Faculty of Science, Chulalongkorn University
- 2007-2008 **Webmaster and IT Manager** of Viriyasak Industry Co.,Ltd. and Karn Rattan OTOP Group
- 2006 **Printing Industry skill** Internship from Cyberprint Co., Ltd.
- 2005 **Printing Industry skill** Internship from Aksornsophon Co., Ltd.
- 2001-2002 **Programming Trainer** of Patumwan Demonstration School : Srinakharinwirot University in "Pre-Computer Science Olympic Training Project" and "Basic Computer Training Project for teacher"
- 2000-2002 **Teaching assistant** in Computer Programming and Multimedia program of Patumwan Demonstration School : Srinakharinwirot University
- 2000-2001 **Trainee of Olympic Computer Science Camp** of The Promotion of Academic Olympiad and Development of Science Education Foundation under the patronage of Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra
- 1<sup>st</sup> Camp** : at Faculty of Science, King Mongkut's Institute of Technology Ladkrabang
- 2<sup>nd</sup> Camp** : at Faculty of Science, Thammasat University

## **PUBLICATIONS**

### **International Book**

- 2015 P. Silapasuphakornwong, M. Suzuki, K. Uehira, Y. Takashima, H. Unno, and H. Torii: "Nondestructive Readout of Copyright Information Embedded in Objects Fabricated with 3-D Printers" in *Digital-Forensics and Watermarking*, Tokyo, pp 232-238, 2016.

### **Book**

- 2016 P. Silapasuphakornwong, C. Lursinsap: "Automatic Fall Surveillance and Detection System for Elders Inside Smart Home" in *A Memorial Book on The Occasion of Her Royal Highness Princess Maha Chakri Sirindhorn's 60th Birthday Anniversary*, Bangkok, pp 231-244, 2016.

### **International Journal**

- 2013 P. Silapasuphakornwong, S. Phimoltares, A. Hansuebsai, C. Lursinsap. "Effective Morphological Features for Human Posture Recognition in Camera-Based System". *International Journal of Advancements in Computing Technology*. Vol. 5, No. 9, pp. 1274 ~ 1282, 2013.

**Journal**

- 2016 F.C. Lin, G. P. Carayannis, P. Silapasuphakornwong. "BATHYMETRIC SOUNDING by REMOTE SENSING Using ELECTROMAGNETIC RADIATION" *SCIENCE OF TSUNAMI HAZARDS Journal of Tsunami Society International*. Vol. 35, No. 3, 2016
- 2015 P. Silapasuphakornwong, "My Worth Experiences: When I've been a foreign (Thai) researcher in Japan". *ITE The journal of the Institute of Image Information and Television Engineering*. Vol. 1, pp. 165 ~ 168, 2016.

**Dissertation**

- 2012 "Five-Human-Posture Classification Independent from Background, Camera Distance and Apparel" (certified: very good)

**International Proceeding**

- July 2016 Kazutake Uehira, Satoru Baba, Masahiro Suzuki, Piyarat Silapasuphakornwong, Hideyuki Torii, Youichi Takashima. "Hiding Information in 3D Printed Objects by Forming Fine Cavities inside Objects" *Proceedings of the 2nd World Congress on Electrical Engineering and Computer Systems and Science (EECSS'16)* Budapest, Hungary - August 16 - 17, 2016 Paper No. MHCI 102 DOI: 10.11159/mhci16.102
- Mar 2016 Masahiro Suzuki, Hiroshi Unno, Piyarat Silapasuphakornwong and Kazutake Uehira. "Visuomotor Coordination in Straight Hitting Movements for Oncoming Objects in Front of Observers" in *International Symposium on Affective Science and Engineering 2016 (ISASE2016)*, 21-22 Mar, Tokyo, Japan, 2016
- Feb 2016 Kohei Ohshita, Piyarat Silapasuphakornwong, Hiroshi Unno, and Kazutake Uehira. "Optically written watermarking technology using temporally and spatially luminance-modulated light" in *International Symposium on Electronic Imaging : Media Watermarking, Security, and Forensics 2016 (EI2016)*, Feb 14 - 18, 2016, California, USA.
- Feb 2016 Masahiro Suzuki, Piyarat Silapasuphakornwong, Hideyuki Torii, Hiroshi Unno, Kazutake Uehira, Youichi Takashima. "Technique for Protecting Copyrights of Digital Data for 3-D Printing, and Its Application to Low Infill Density Objects" in *The Eighth International Conferences on Advances in Multimedia (mmedia 2016)*, 7-12 Feb, Lisbon, Portugal, 2016
- Oct 2015 P. Silapasuphakornwong, M. Suzuki, K. Uehira, Y. Takashima, H. Unno, and H. Torii: "Nondestructive Readout of Copyright Information Embedded in Objects Fabricated with 3-D Printers" in *the 14th International Workshop on Digital-forensics and Watermarking (IWDW)*, 7-10 Oct, Tokyo, Japan, 2015.

- Aug 2015 A. Okada, P. Silapasuphakornwong, M. Suzuki, H. Torii, Y. Takashima, K. Uehira, "Non-destructively reading out information embedded inside real objects by using far-infrared light" in *Proceedings of SPIE* Vol. 9599, 95992V (2015) .
- Aug 2015 P. Silapasuphakornwong, H. Unno, and K. Uehira: "Information embedding in real object image using temporally brightness-modulated light" in *Proceedings of SPIE* Vol. 9599, 95992W (2015).
- Mar 2015 M. Suzuki, P. Silapasuphakornwong, H. Unno, K. Uehira and Y. Takashima: "Copyright Protection for 3D Printing by Embedding Information Inside Real Fabricated Objects" in the *10<sup>th</sup> Joint International Conference on Computer Vision, Imaging, and Computer Graphic Theory and Applications (VISIGRAPP)*, 180-185, Berlin, Germany, 2015.
- Mar 2015 H. Unno, P. Silapasuphakornwong, M. Suzuki, and K. Uehira. "Technique for estimating interactive position with 3-D objects based on human hand movements in forehead hitting action" in *The Fourth Indonesian-Japanese Conference on Knowledge Creation and Intelligent Computing (KCIC)*, 1-6, Surabaya & Bali, Indonesia, 2015.
- Nov 2014 P. Silapasuphakornwong, M. Suzuki, H. Unno, and K. Uehira. "Estimation Technique for hitting position based on human body movement in real objects and 3D-images condition" in the international conference *ICIPT 2014* : 22-26, Bangkok, Thailand, 2014.
- Aug 2014 P. Silapasuphakornwong, M. Suzuki, H. Unno, K. Matushima, K. Uehira and Y. Takeda. "New Technique to Estimate Positions of 3-D Images by Fitting Velocity of Reaching Movements into Function of Chi-Squared Distribution" in *the 2nd International Conference on Human-Computer Interaction (MHCI)* : 125.1-125.4, Prague, Czech Republic, 2014.
- July 2013 F. C. Lin, W. Zue, P. Silapasuphakornwong, K. Sookhanaphibarn. "Remote-A Satellite based tsunami early detection system" in *the IEEE Geoscience and Remote Sensing Society Symposium IGARSS 2013* : 3694-3697, Melbourne, Australia, 2013.
- July 2010 P. Silapasuphakornwong, S. Phimoltares, C. Lursinsap, A. Hansuebsai "Posture recognition invariant to background, cloth textures, body size, and camera distance using morphological geometry". in *ICMLC* : 1130-1135, IEEE, 2010.

### Proceeding

- Jan 2016 (Sendai) M. Suzuki, P. Silapasuphakornwong, Y. Takashima, H. Torii, H. Unno and K. Uehira: "Technique for protecting copyrights of digital data for 3-D printing by using near-infrared cameras" IEICE Technical Report, Vol.115, No.397, pp.71-74 , 2016.

- June 2015  
(Okinawa) P. Silapasuphakornwong, M. Suzuki, K. Uehira, Y. Takashima and H. Unno: "Nondestructive Readout Technique of Copyright Information Embedded in Objects Fabricated with 3-D Printers" IEICE Technical Report, Vol.115, No.96, pp.8-11, 2015.
- May 2015  
(Kyoto) P. Silapasuphakornwong, M. Suzuki, K. Uehira, Y. Takashima and H. Unno: "Readout of copyright information hidden in objects fabricated with 3-D printers" IEICE Technical Report, Vol.115, No.38, pp.41-44, 2015.
- Sep 2014  
(Kochi) P. Silapasuphakornwong, M. Suzuki, H. Unno, K. Uehira and Y. Takashima: "New technique using thermography for nondestructive readout of information hidden in objects fabricated with 3-D printers" IEICE Technical Report, Vol.114, No.220, pp. 37-40, 2014
- July 2014  
(Hakodate) P. Silapasuphakornwong, M. Suzuki, H. Unno, K. Uehira and Y. Takashima: "Information Hiding Technique to Protect Copyright of Digital Data for 3-D Printing" IEICE Technical Report, Vol.114, No.115, pp. 265-270, 2014
- May 2014  
(Okinawa) N. Tsuchida, P. Silapasuphakornwong, H. Unno, M. Suzuki, and K. Uehira: "Spatio-Temporal Characteristics of Hitting Movements" IEICE Technical Report, Vol.114, No.67, pp. 7-10, 2014
- May 2014  
(Okinawa) K. Matsushima, P. Silapasuphakornwong, H. Unno, M. Suzuki, and K. Uehira: "Improvement of Technique to Estimate Visually Perceived Location by using Reaching-Movement" IEICE Technical Report, Vol.114, No.67, pp. 11-16, 2014
- Feb 2014  
(Hiroshima) P. Silapasuphakornwong, M. Suzuki, H. Unno, and K. Uehira: "New Technique Using Movements of Users' Bodies to Estimate Positions of 3-D Images That They See- Estimation From Hitting-Movements", Reports of the Technical Conference of The Institute of Image Electronics Engineers of Japan : pp. 169-174, 2014.
- Feb 2014  
(Sapporo) M. Suzuki, P. Silapasuphakornwong, H. Unno, and K. Uehira: "Characteristic of impact positions during users' hitting movements, and new technique to estimate impact positions before impact by using it", IEICE Technical Report, Vol.38, No.7, pp. 307-311, 2014.

### Exhibition

- 2014 Innovation Japan 2014, Tokyo Big site, Tokyo, Japan.

### Senior Project

- 2006 "Software Development for Image Shadow Removal by using Pulse Coupled Neural Network" (2<sup>nd</sup> order prize of Junior Inventor Award 2006)

## **OTHER EXPERIENCES / COMMITTEE INVOLVEMENT**

### **Reviewers**

2013-present Journal of Electronic Imaging

### **Session Chair**

2013 IEEE International Geoscience and Remote Sensing Symposium, Water Related Disasters Session

## **SKILLS**

<b>Programming Language</b>	C, C++, Visual Basic, HTML, PHP, Python, MATLAB
<b>OS</b>	Windows, Mac
<b>Software</b>	Microsoft Office, Flash, Photoshop, Illustrator, LaTeX, Wega, WordPress, Makerbot, Metasequair, OpenCAD, Slic3D
<b>Machines Controlling</b>	3D-printing, Lego-robot, raspberry-pie
<b>Communication Language</b>	Thai (native), English (good-academic), Japanese (Fundamental)
<b>Hobbies</b>	Photography, Playing Games, Reading, Swimming, Listening Music, Updating Science and Technology News

## **INTEREST**

<b>Fields</b>	Image Processing, Computer Vision, Multimedia, Games and Applications and Human-Computer Interaction, GeoScience, 3D-printng
<b>Personal Inspiration</b>	Doraemen (A Japanese cartoon character: A cat-like-robot from 22 <sup>th</sup> centuries who has a 4D-pocket)
<b>Favorite Games</b>	Final Fantasy series, Atelier series, Dragon Quest, Dynasty Warrior, Basara, Dokapon, Kingdom Heart, Shadow Hearts, Star Ocean, Teales series