Curriculum Vitae

AREEKUL, Vutipong

Birth date: May 28,1964.	**Age:** 59
Citizenship: Thai	**Birthplace:** Bangkok, Thailand
Marital Status: Marriage	**Number of children:** Two

ADDRESSES:

Business Address:

Floor 6th, Department of Electrical Engineering, Faculty of Engineering, Kasetsart University, Jatujak, Bangkok, Thailand, 10900.

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60/286 Soi 3/10, Krissadanakorn 25, Pracharoamchai Rd., Saikongdintai, Klongsamwa, Bangkok, Thailand, 10510.

PROFESSIONAL INTERESTS:

Biometrics (Fingerprint Recognition, Biometric Standards, and Biometric Interoperability)

Signal & Image Processing for Agriculture (Plant Leaf Identification, Fishery Monitoring, Entomology Applications; Silkworm Monitoring, Insect Detection, Insect's Egg Counting, Bacteria Colony Measurement)

Image Processing for Traffic Control (Thai License Plate Recognition, Traffic Analysis)

High Performance DSP Hardware Implementation for Image Processing

EDUCATION:

Degree	University	Year
Certificate Higher Vocational in Electronic Mechanics	King Mongkut's Institute of Technology, North Bangkok Bangkok, Thailand	1980-1982
Bachelor of Engineering (B.Eng.) Electrical Engineering	King Mongkut's Institute of Technology, North Bangkok Bangkok, Thailand Senior Project "Development of Homing Head in Guided Missile"	1983-1986
Master of Engineering (M.Eng.) Electrical Engineering	Kasetsart University Bangkok, Thailand Thesis "The Three-stage Digital Switching in Private Automatic Branch Exchange (PABX)"	1987-1990
Doctor of Philosophy (Ph.D.) Electrical and Computer Engineering	Washington State University Pullman, Washington, USA. Dissertation "Orientation Adapted Subband Image Compression"	1992-1998

1) ACADEMIC:

Rank	University	Date
Professor	Department of Electrical Engineering, Kasetsart University, Main Campus	June 27, 2017-Present (Official Broadcast Date: May 10, 2019)
Associate Professor	Department of Electrical Engineering, Kasetsart University, Main Campus	July 3, 2006-June 26, 2017
Assistant Professor	Department of Electrical Engineering, Kasetsart University, Main Campus	December 8, 2000 – July 2, 2006
Lecturer	Department of Electrical Engineering, Kasetsart University, Main Campus	May 29, 1998 – December 7, 2000
Lecturer	Department of Electrical Engineering, Kasetsart University, Main Campus	September 20, 1990 – August 19, 1992

1.1) COURSES TAUGHT/DEVELOPED AT KASETSART UNIVERSITY:

Current Graduate Courses:
1) 01205514 *Signal Processing Theory*, Elective Course, 1st Semester 2002, 2004, 2019, 2020, 2021, 2022, and 2023.
2) 01205519 *Pattern Recognition*, Elective Course, 1st Semester 2000, 2nd Semester 2004, 1st Semester 2006, 1st Semester 2009, 2nd Semester 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2018, 2020, 2021, and 2023.
3) 01205515 Image and Video Processing, Elective Course, 1st Semester 2022 and 2023.
4) 01205588 Biometric System Design, Elective Course, 2nd Semester 2022.
5) 01205694 *Advanced Research Methods in Electrical Engineering IV*, Core Course, 2nd Semester 2020, 2021, and 2022.

Past Graduate Courses:
1) 205515 *Stochastic Processes*, Elective Course, 1st Semester 1998, 1999 and 2000.
2) 01205515 Image Processing and Representation, Elective Course, 1st Semester 2018, 2019, and 2020
3) 205542 *Computer Organization and Design*", Elective Course, 2nd Semester 1990 and 1991.
4) 205547 *Information Theory*, Core Course, 2nd Semester 1998, 1999, 2000, 2001, and 2003.
5) 205647 *Selected Topic in Information Theory (Data Compression and Source Coding)*, Elective Course, 1st Semester 2001.
6) 205691 *Advanced Research Methods in Electrical Engineering*, Core Course, 2nd Semester 2005.
7) 205696 *Selected Topics in Electrical Engineering (Pattern Recognition)*, Elective Course, 1st Semester 2006.
8) 01205697 Seminar, Core Course, 1st Semester 2006, 2nd Semester 2005, 2006, 1st / 2nd Semester 2012, 2013, 2014, 2015, 2nd Semester 2017, 1st / 2nd Semester 2018.

Current Undergraduate Courses:
1) 01205412 *Biometrics*, Elective Course, 2nd Semester 2022.
2) 01205414 *Image Processing and Computer Vision Laboratory*, Elective Course, 1st Semester 2023, 2nd Semester 2021 and 2022.
3) 01205481 *Digital Image Processing*, Elective Course, 2nd Semester 2019, 2020, 2021, 2022, and 2023.
4) 01205485 *Image Analysis and Recognition*, Elective Course, 1st Semester 2020, 2021, 2022, and 2023.

Past Undergraduate Courses:
1) 205201 *Introduction to Electrical Engineering*", Core Course, 1st and 2nd Semester 1990, 1991, and 1992.
2) 205423 *Telecommunication Systems Engineering*, Elective Course, 2nd Semester 1999 and 1st Semester 2000.
3) 205414 *Digital Signal Processing (Old Curriculum before 2003)*, Elective Course, 1st Semester 1998 and 1999, 2nd Semester 2000, 2001, 2002, 2003, and 2004.
4) 01205415 *Digital Image Processing*, Elective Course, 1st Semester 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2nd Semester 2016, 1st Semester 2017, 2018, 2019.
5) 01205314 *Digital Signal Processing*, Elective Course, 1st Semester 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, and 2016.
6) 01205315 *Digital Signal Processing Laboratory*, Elective Course, 2nd Semester 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, and 2016.
7) 205415 *Digital Signal Processing Laboratory (Old Curriculum before 2003)*, Elective Course, 1st Semester 2001, 2003, 2004, and 2005.
8) 01205414 *Digital Signal Processing Design and Implementation*, Elective Course, 2nd Semester 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, and 2015.
9) 205416 *Digital Image Processing (Old Curriculum before 2003)*, Elective Course, 1st Semester 2001, 2002, 2003, 2004, and 2005, 2nd Semester 2005.

1.2) COURSES TAUGHT/DEVELOPED AT OTHER UNIVERSITY:
1) 954704 Signals and Systems, Core Course for Communication Engineering, Graduate Program, The Sirindhorn International Thai-German Graduate School of Engineering (TGGS), King Mongkut's Institute of Technology, North Bangkok, Academic Year 2/2007.
2) TE3801 Digital Signal Processing Laboratory, Elective Course for Telecommunications Engineering Undergraduate Program, Shinawatra University, Academic Year 1/2004 (Cooperate with 205415 *Digital Signal Processing Laboratory* at Kasetsart University).
3) ET493 *Topics in Electrical Engineering (Mobile/Wireless Communications)*, Elective Course for Electrical Engineering Undergraduate Program, Sirindhorn International Institute of Technology, Thammasart University, 2nd Semester 2001, 2002 and 2003.
4) 114706 *Selected Topic in Communication Engineering (Wireless Communications)*, Elective Course for Electrical Engineering Undergraduate Program, King Mongkut's Institute of Technology, North Bangkok, 2nd Semester 2001.

1.3) SHORT COURSES TAUGHT/DEVELOPED FOR INDUSTRY OR COMMUNITIES:
1) "Digital Image Processing for Visual Inspection", 6 days Short Course for Engineers from Western Digital (THAILAND), April-May 2007.
2) "Biometric Technology for e-Government", 2 days Workshop for Government Officers from Various Ministries and Agencies, 30-31 March 2009.

1.4) NUMBER OF ADVISEES AT KASETSART UNIVERSITY

CURRENT STUDENTS

Graduated Year	# 4th Year Project Advisee				# of Master Students	# of Ph.D. Students
	1st Class Honor	2nd Class Honor	Regular	Total		
Current Students (2022-2023)	-	1	2	3	4	1

GRADUATED STUDENTS

Graduated Year	# 4th Year Project Advisee (Undergrad Students)				# of Master Graduation	# of Ph.D. Graduation
	1st Class Honor	2nd Class Honor	Regular	Total		
1998	-	-	12	12	-	-
1999	1	-	7	8	-	-
2000	2	1	1	4	-	-
2001	4	1	4	9	1	-
2002	2	1	6	9	-	-
2003	-	1	4	5	-	-
2004	1	1	3	5	-	-
2005	-	-	2	2	5	-
2006	1	1	3	5	1	-
2007	-	1	7	8	-	-
2008	-	1	2	3	1	-
2009	-	-	4	4	1	1
2010	-	1	1	2	2	-
2011	1	3	2	6	-	-
2012	-	-	1	1	1	-
2013	-	1	1	2	-	-
2014	-	-	-	0	1	-
2015	1	-	-	1	-	-
2016	-	1	-	1	-	-
2017	-	-	2	2	1	-
2018	-	-	-	0	2	-
2019	-	1	-	1	-	-
2020	-	-	-	0	1	1
2021	-	-	1	1	-	1
2022	-	-	7	7	-	-
2023	-	1	3	3	(Expected 2)	-
2024			1	1		
Total	13	16	73	101	17	3

1.5) GRADUATE STUDENTS SUPERVISED (Total 16):
1) *Suksan Jirachaweng*, M.Eng. (Electrical Engineering), May 2002, Thesis Title: "*Adaptive Directional Zerotree and Block Image Coding*". (Good Thesis Award by Kasetsart University)
2) *Thawatchai Banmai*, M.Eng. (Electrical Engineering), May 2006, Thesis Title: "*Biometric Operating System on Digital Signal Processor via Network*".
3) *Kittipol Horapong*, M.Eng. (Electrical Engineering), May 2006, Thesis Title: "*Iris Recognition Algorithm and Biometric System Software Development*"
4) *Nuttapong Seansawat*, M.Eng. (Electrical Engineering), May 2006, Thesis Title: "*Fingerprint Verification Hardware Prototype Using Digital Signal Processor*"
5) *Wantawat Intho*, M.Eng. (Electrical Engineering), May 2006, Thesis Title: "*The Development of Cell Search Algorithm and Hardware Implementation in 3 G Mobile Phone*"
6) *Itthichai Leelertyanon*, M.Eng. (Electrical Engineering), May 2006, Thesis Title: "*The Development of Rake Receiver Algorithm and Hardware Implementation in 3G Mobile Phone*"
7) *Teesid Leelassawassuk,* M.Eng. (Electrical Engineering), May 2007, Thesis Title: "*Fingerprint Matching using Focal Point as a Reference Point*"
8) *Natthawat Boonchaiseree,* M.Eng. (Electrical Engineering), May 2009, Thesis Title: "*Focal Point Detection Based on Half Concentric Lens Model for Fingerprint Registration*"
9) *Prawit Suthivichaiporn,* M.Eng. (Electrical Engineering), October 2010, Thesis Title: "*Adaptive Boosted Spectral Filtering for Fingerprint Enhancement*"
10) *Suksan Jirachaweng*, D.Eng. (Electrical Engineering), October 2010, Dissertation Title: "*Performance Improvement on Enhancement, Orientation Modeling, and Matching of Fingerprint*".

11) *Sarut Rungrattana-ubon,* M.Eng. (Electrical Engineering), May 2011, Thesis Title: "*Focal Point Detection using Ridge Curvature Clustering*"
12) *Arucha Rungchokanun,* M.Eng. (Information and Communication Technology for Embedded Systems), May 2011, Thesis Title: "*Traffic Speed Measurement and Incident Detection using Spatio-Temporal Model and Frequency Domain Analysis*"
13) *Krisada Phromsuthirak,* M.Eng. (Electrical Engineering), May 2013, Thesis Title: "*Fingerprint Quality Assessment Using Frequency and Orientation Subbands of Block-based Fourier Transform*"
14) *Phumpat Ruangsakul,* M.Eng. (Electrical Engineering), May 2015, Thesis Title: "*Latent fingerprints segmentation based on Rearranged Fourier Subbands*"
15) *Phuchitsan Chaisuk,* M.Eng. (Electrical Engineering), November 2017, Thesis Title: "*Leaf Classification Based on a Quadratic Curve Axis*"
16) *Watcharapong Chaidee,* M.Eng. (Electrical Engineering), May 2018, Thesis Title: "*Latent Fingerprint Enhancement based on Spectral Dictionary*"
17) *Chonlatid Deerada,* M.Eng. (Electrical Engineering), July 2018, Thesis Title: "*Reliable Reference-Point Estimation Using Progressive Focusing for Latent Fingerprints*"
18) *Kittinuth Srisutheenon*, M.Eng. (Electrical Engineering), March 2020, Thesis Title: "*Semi-automatic Progressive Latent Fingerprint Enhancement*"
19) *Arucha Rungchokanun,* D.Eng. (Electrical Engineering), August 2020, Thesis Title: "*Performance Improvement of Fingerprint Recognition Based on Minutiae Selection*"
20) *Kittipol Horapong,* D.Eng. (Electrical Engineering), August 2021, Thesis Title: "*Progressive and Corrective Feedback for Latent Fingerprint Enhancement*"
21)

2) RESEARCH AND TECHNICAL SERVICES:

2.1) AWARDS:
2.1.1) Best Alumni year 2021, Kasetsart University.
2.1.2) Best Reviewer, International Joint Conference on Biometrics (IJCB) 2020.
2.1.3) Best Alumni year 2020, Faculty of Engineering, Kasetsart University.
2.1.4) *The best paper award of ECTI-CON 2020*; the 17th Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI) Conference**.**
2.1.5) *The Siew-Sngiem Karnchanachari Research Leadership Awards*, Six Million Baht, January 9 2012, by SVITA-KU Joint Initiative, Supported by Khun Maevadi Karnchanachari Navapan and Dr. Karnitha Karnchanachari though SVITA Foundation's Fund for Supplemental Education (FUSE), This award supports the "Electrical Engineering Innovation for Biometric Technology project".
2.1.6) *The best paper award of ECTI-CON 2004*; the 1st Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI) Conference**.**

2.2) GRANT/ RESEARCH SUPPORT:

GRANT / RESEARCH SUPPORT

Time Period	Position	Topic/Title	Funding by	Amount of Funding (Thai Baht)
Jun. 1999	Principal Investigator	*Kasetsart Image Processing Laboratory Start-Up*	Donated by Prof. Sutharm Areekul, Ph.D.	100,000
Aug. 1,1999 – July 31, 2000	Principal Investigator	*Adaptive Directional Zerotree Image Coding*	Faculty of Engineering Funding KU	50,000
Feb. 1999	Project Leader	*The Measurement of Destructive Insect Population on Plants*	Faculty of Engineering Funding Supported for "On the Engineering Way Exhibition"	50,000
Feb. 2001	Project Leader	*Thai License Plate Recognition*	Faculty of Engineering Funding Supported for "On the Engineering Way Exhibition"	47,000
Feb. 2001	Project Leader	*Automatic Silk Worm Farming*	Faculty of Engineering Funding Supported for "On the Engineering Way Exhibition"	50,000
October 14 2002 – October 13 2003	Principal Investigator	*Biometric System and Digital Image Processing Hardware*	National Electronics and Computer Technology Center (NECTEC), National Science and Technology Development Agency (NSTDA)	1,553,932
1 Jul 2003 – 31 Jun. 2005	Principal Investigator	*Automatic Fingerprint Verification Algorithms*	Thailand Research Fund (TRF) and the Ministry of University Affairs	480,000
June 21. 2004- June 20 2006	Principal Investigator	*Biometric System and Digital Image Processing Hardware (2nd and 3rd Phases)*	National Electronics and Computer Technology Center (NECTEC), National Science and Technology	3,777,122

Time Period	Position	Topic/Title	Funding by	Amount of Funding (Thai Baht)
			Development Agency (NSTDA)	
July 20. 2006 – July 19. 2009	Principal Investigator	*Performance Improvement of Automatic Fingerprint Identification Algorithm*	Thailand Research Fund (TRF) and the Ministry of University Affairs	1,200,000
October 21 2008-July 23 2009	Principal Investigator/ Consultant	*Guideline for Biometric Standards and Interoperability for e-Government and ASEAN*	Ministry of Information and Communication Technology, Thailand	1,999,800
Nov.-Dec. 2010	Advisor & Coordinator	*ISO/IEC 19794-3 Implementation & Conformance Testing Level 1 with Temasek Polytechnic, Singapore. *Amount of Funding was dedicated to scholarships for current and future KSIP Lab graduate students with no charges.*	Chanwanich Company Limited	1,680,000
October 1 2010-September 27 2011	Principal Investigator/ Consultant	*Study and Guideline of Biometric Interoperability for e-Government*	Ministry of Information and Communication Technology, Thailand	1,900,000
June 1. 2006-October 31 2011	Grantee (Ph.D. Advisor)	*Performance Improvement on Enhancement, Orientation Modeling, and Matching of Fingerprint*, Suksan Jirachaweng Ph.D. Candidate, the Royal Golden Jubilee Ph.D. Program	Thailand Research Fund (TRF)	919,893.97
May 15 2012-December 11 2012	Principal Investigator/ Consultant	*Extended Implementation of Biometric Interoperability for Thailand e-Government*	Ministry of Information and Communication Technology, Thailand	2,250,000
9 Jan. 2012- 8 Jan. 2015	Principal Investigator	*Electrical Engineering Innovation for Biometric Technology Project*	Siew-Sngiem Karnchanachari Research Leadership and Young Professorship Award, SVITA-KU Joint Initiative	6,000,000
September 5 2014-September 4 2015	Principal Investigator/ Consultant	*The Study and Development of Central Fingerprint Database Management System, Ministry of Justice Standard*	Ministry of Justice, Thailand	5,000,000
August 31 2021- 28 Jan 2022	Principal Investigator/ Consultant	*Biometric Technology Usage Standard Development for Personal Authentication*	Electronic Transaction Development Agency (ETDA), Ministry of Digital Economy and Society	3,700,000
January 28 2022 – August 28 2022	Principal Investigator/ Consultant	*Biometric Technology Usage Standard Development for Personal Authentication (Extension)*	Electronic Transaction Development Agency (ETDA), Ministry of Digital Economy and Society	1,000,000
April 26 2023 – September 23 2023	Principal Investigator/ Consultant	*Biometric Technology Usage Standard Development and Revision for Personal Authentication*	Electronic Transaction Development Agency (ETDA), Ministry of Digital Economy and Society	990,000
Total Funding				**32,747,748**

2.3) INVITED PRESENTATIONS:

INTERNATIONAL INVITED PRESENTATIONS:

Date	Topic	Place
January 26, 2006	"Image Processing Researches for Agricultural Applications in Thailand," Invited Speaker for The 6th International Symposium on Global Renaissance by Green Energy Revolution	Nagaoka University of Technology, Nagaoka, Japan
Jun. 6, 2008	"A Focal Point, Good and Reliable Reference Point for Fingerprint Registration," Invited Speaker for Researchers at Computer Vision and Image Understanding Department (CVIU), Institute for Inforcomm Research	Institute for Inforcomm Research, Singapore
September 17, 2009	"Biometric Implementation in Thailand and Future Trend," Invited Speaker for the ASIAN Biometric Consortium (ABC2009)	Tokyo Big Sight, Tokyo, Japan
December 12, 2010	"Advance Fingerprint Image Enhancement," The 1st Keynote Speaker of the 6th International Conference on Signal Image Technologies and Internet Based System (SITIS2010)	Impiana KLCC Hotel & Spa, Kuala Lumpur, Malaysia
Oct 19, 2018	"Latent Fingerprint Research for Human Identification Problems in Thailand," Invited Speaker of the 2018 Global Congress on Biometrics Identification	Orchid Hall, 5F, Shenzhen Convention and Exhibition Center, Shenzhen, China
July 5, 2020	"Present and Future Biometric Research, Thailand's Perspective," Plenary Talk of the 34th International Technical Conference on Circuits / Systems, Computers and Communications (ITC-CSCC2020) (Online Talk)	WINC Aichi, Aichi Industry & Labor Center, Nagoya, Japan
October 21, 2021	"Biometric Trend and Research during or after the Pandemic," Keynote Speaker of the 20th International Symposium on Communications and Information	Virtual Symposium, Tottori, Japan

Date	Topic	Place
	Technologies (ISCIT2021) (Online Talk)	

NATIONAL INVITED PRESENTATIONS:

Date	Topic	Place
November 19, 2003.	"*Development of Fingerprint and Iris Authentication Systems in Thailand*," Invited Speaker for Seminar on Information Security Technology, NECTEC	NECTEC, Bangkok, Thailand
Feb. 12, 2007.	"*Biometrics*," Invited Speaker for Graduate Program, Department of Electrical Engineering**,** Thammasart University	Thammasart University, Bangkok, Thailand
Aug. 30, 2009.	"*Identity Proof Using Biometric Technology*," Invited Speaker for Bureau of Registration Administration (BORA) Seminar, Department of Provincial Administration, Ministry of Interior	Kiangtalay Resort, Rayong, Thailand
Nov. 17, 2009.	"*Trend of Biometric Standardization and Large Scale Interoperability for Royal Thai Government*," Invited Speaker for Office of Information Technology CMS and Communication, Royal Thai Police	Royal Thai Police, Bangkok, Thailand
November 26, 2009.	"*Biometric Technology and Future Trends*," Invited Speaker for The Anniversary HIP 10th Innovation Biometric 2010 Press Conference, Century Mean Co.Ltd. (Thailand)	King Park Avenue Hotel, Bangkok, Thailand
January 29, 2010.	"Fingerprint Recognition on Embedded Systems," Invited Speaker for The International Conference on Information and Communication Technology for Embedded Systems (ICICTES 2010)	Asia Airport Hotel, Bangkok, Thailand
September 1, 2010	"Fingerprint Enhancement Technology," Invited Speaker for the 5th Central Institute of Forensic Science (CIFS) Academic Day 2010	Miracle Grand Hotel, Bangkok, Thailand
Dec 15,2011	"Biometric for Your Life", Invited Speaker for The 3rd HIP Security Fair, Century Mean Co.Ltd. (Thailand)	King Park Avenue Hotel, Bangkok, Thailand
December 23, 2014	"How's Important of Biometric Data in Thailand," Invited Speaker for the Workshop on biometric data service system development project, Ministry of Labor, Thailand	Grand Mercure Fortune Hotel, Bangkok, Thailand
February 14, 2017	"Digital Identity Key to Privacy," Invited Speaker for "IKON Talk #1, 2017", AIS Co.Ltd. (Thailand)	FL19 Auditorium, AIS Tower 1, Bangkok, Thailand
July 16, 2017	"Biometric Trend in Thailand," Invited Speaker for Open Ceremony of Thailand Secure Identity & Biometric Association and Thailand Smart Security Association, ZK Teco Co.Ltd. (Thailand)	Thailand Chinese Chamber of Commerce, Bangkok, Thailand
August 24, 2017	"Fingerprint Database Management for Ministry of Justice," Invited Speaker for Thailand Research Expo 2017,	Centara Grand Hotel at Central World, Bangkok, Thailand
January 29, 2019	"Hybrid Biometrics Promote the Development of Thailand 4," Invited Speaker for "Biometrics AIOT and Smart Communities," ZK Teco Thailand Smart Security and Biometrics Summit 2019	The Athenee Hotel, Bangkok, Thailand
March 27, 2019	"Biometrics Usages and Challenging Research Problems in Thailand," Invited Speaker for The International Conference on Information and Communication Technology for Embedded Systems (ICICTES 2019)	Conference Room, KU Home, Bangkok, Thailand
September 19, 2020	"How to write a quality book for academic rank promotion," Invited Speaker for Prince of Songkla University, Phuket Campus	Prince of Songkla University, Phuket Campus, Phuket, Thailand
June 18, 2023	"How to be a professor; frequently asked questions," Speaker for Faculty of Engineering, Kasetsart University, Bangkhen Campus.	Rama Gardens Hotel, Bangkok, Thailand

2.4) REVIEWER:

Journal Reviewer:
- IEEE Transaction on Forensic & Information Security (2020, 2019, 2018x2, 2016x2, 2014, 2013, 2010)
- IEEE Transaction on Pattern Analysis and Machine Intelligent (2013x2)
- IEEE Transaction on Image Processing (2016, 2011, 2001)
- IEEE Transaction on Circuits and Systems for Video Technology (2014)
- IEEE Signal Processing Letter (2006)
- Pattern Recognition Letter (2011x2, 2010x4)
- Optics and Laser Engineering (2010)
- IET (2018, 2015)
- Machine Vision and Applications (2015)
- Digital Signal Processing (2015)

Conference Reviewer: IJCB2021, ICPR2020, IJCB2020, BTAS2019, ICPR2018, ISBA2017, IJCB2017, ICPR2016, ICB2016, BTAS2016, ICB2015, ICPR2014, ICPR2012, ICB2012, ICB2007, IWAIT2006-2007, APCC2007, ISCIT2003, ECTI-CON 2004-2009, 2013, and several EECONs

2.5) TRAINING

Year	Title/Funding	Country/Funding
January 12-13, 2007	**Biometric Data Security and Privacy Course** By A.K. Jain, Arun Ross, and Stan Li Funding by Croucher Advanced Study Institute & Faculty of Eng. Kasetsart University	Hong Kong

2.6) COMPETITION:

Date	Event	Results
Jan. 2007	Enter **Fingerprint Verification Competition 2006**; code **P036**	Overall Rank 37/42 Db1 Rank 37/42 Db2 Rank 34/42 Db3 Rank 41/42 Db4 Rank 28/42

2.7) PAST RESEARCH ASSISTANTS & CONSULTANTS BEFORE PH.D. GRADUATION (Before 1998)

RESEARCH ASSISTANTS

Year	Research Topic and Responsibility	Funding
June 1984 – May 1986	**Development of Guided Weapon System** - Design and develop homing head systems - Design and build a data recording circuit in the tested flight of a missile. **Note:** I worked with Dr. Romson Nilpong (KMIT North Bangkok)	Joint Research Between King Mongkut's Institute of Technology, North Bangkok, and Royal Thai Air Force
October 1987 – December 1991	**Development of Private Automatic Branch Exchange (PABX)** - Designed and Developed Hardware; i.e. non-blocking switching cards (1024 channels), signaling card (DTMF decoders and tone generator), and MFCR2 card. - Designed and built three-stage digital switching for 2048 channels **Note:** worked with Assist. Prof. Pramote Srisuksan and Dr. Rachaporn Kienprasit (currently with NECTEC)	Joint Research Between Kasetsart University and Science and Technology Development Board (STDB)
March 1 – May 15, 1998	**Short Research Project in Image Coding (JPEG2000)** Note: worked with Prof. Thomas R. Fischer	USA / Washington State University

CONSULTANTS & PRODUCT DEVELOPMENT FOR COMMERCIALIZATION

Year	Title/Product/Detail	Co. Ltd.
1986-1987	**Snooker's Table Light Controller** My first hardware was designed by using a TTL logic circuit without using a microcontroller. This machine controlled the light of a snooker table, activated by a coin; i.e., a 5-Baht coin turned on the light for 5 minutes. Six were built manually.	-

1988–1992	**Bed Head Controller Hardware Design and Software Development**
	    The Bedhead controller was the main control box using microcontroller MCS-51 for controlling lighting, television, air-conditioning, radio, alarm clock, and curtains in a hotel room. This product won **the best product award for an electrical control system in 1989 from the Ministry of Industry, Thailand.**
	    The bed head controllers are still in many major hotels, i.e., Ambassador, Hilton, Novotel, Holiday Inn, Dusit and their chains, and more than 70 hotels and resorts in Thailand. As a result, this product gained the highest income of all EnerSaver's products today.
	Note: I worked with Dr. Rachaporn Kienprasit
		EnerSaver Co. Ltd.

1990-1991	**Humidity Controller for Wood Drying Machine** Later, I modified the Bedhead controller to a humidity controller for a wood drying machine. This machine was designed as a humidity controller for a wood drying machine used in the toy industry in Trung province, southern Thailand. This controller measured wet and dry thermo-sensor, converted them to relative humidity, and controlled the moisture valves.	EnerSaver Co. Ltd.
1988-1990	**Signaling Converter.** By using microcontroller MCS-51, 8 signals were simultaneously converted between the former PABX system and the new PABX system for EGAT site at Pattalung province	UCOM Co.Ltd.

3) OTHER SERVICES:

3.1) DEPARTMENTAL SERVICE AT KASETSART UNIVERSITY:

3.1.1) **Chairman of Communication Major**, Faculty of Electrical Engineering, KU, June 1998 – July 2002.

3.1.2) **Principal Coordinator, Master in Electrical Engineering Curriculum Revision Committee**, 1998-2002.

3.1.3) **Communication Society Coordinator of Bachelor in Electrical Engineering Curriculum Revision Committee**, 2002-2003.

3.1.4) **Chair, Master in Electrical Engineering Curriculum Revision Committee,** 2011 – 2016.

3.1.5) **Chair, Doctoral in Electrical Engineering Curriculum Revision Committee,** 2011 – 2022.

3.2) INTERNATIONAL SERVICE:

3.2.1) **Finance Chair**, *The 2005 Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI) International Conference (ECTI-CON 2005),* Amari Pattaya Hotel, Chonburi, Thailand, May 12-13 2005.

3.2.2) **Technical Program Co-chair**, *The 2006 Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI) International Conference (ECTI-CON 2006),* Ubonburi Hotel, Ubonrachthani, Thailand, May 10-13, 2006.

3.2.3) **Finance Chair**, *International Workshop on Advanced Image Technology (IWAIT 2007)*, Bangkok, Thailand, January 8-9, 2007.

3.2.4) **Vice General Secretary**, *The 2007 Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI) International Conference (ECTI-CON 2007),* Mae Fah Laung University, Chieng Rai, Thailand, 9-12 May 2006.

3.2.5) **General Secretary and Technical Program Vice-Chair**, *The 2008 Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI) International Conference (ECTI-CON 2008),* Maritime Resort & Spa Hotel, Krabi, Thailand, 14-17 May 2008.

3.2.6) **Technical Program Chair**, *The 2008 IEEE International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS2008)*, Bangkok, Thailand, 8-9 February 2009.

3.2.7) **Technical Program Associate Chair**, *The 2009 Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI) International Conference (ECTI-CON 2009)*, Pattaya, Thailand, 7-8 May 2009.

3.2.8) **Vice Chair & Organizer,** The 1st ASEAN Forum on Biometric Interoperability (1st ASEAN-FBI 2009), Swissotel Le Concorde, Bangkok, Thailand, June 25-26, 2009.

3.2.9) **Executive Committee, Thailand Representative,** Asian Biometric Consortium, http://www.asianbc.org, since December 2007- 2013.

3.2.10) **ISO/IEC JTC1 SC37 Biometric Committee, the 1st Thailand Delegate** (Working Group 3: Biometric Data Interchange Formats)*, Activated from Inactive Member to Observing member (O-member),* from January 2009- December 2009.

3.2.11) **Advisory Board/Committee,** Ministry of Information and Communication Technology, Host of the ISO/IEC JTC1 SC37 Biometrics Working Group Meeting, Novotel Phuket Resort, Phuket, Thailand, 16-20 January 2012.

3.2.12) **General Co-Chair,** *The IAPR International Conference on Biometric 2015 (ICB2015)*, Phuket, Thailand, 19-22 May 2015.

3.2.13) **General Co-Chair,** *The IAPR International Conference on Biometric 2018 (ICB2018)*, Gold Coast, Australia, 20-23 Feb 2018.

3.2.14) **ISO/IEC JTC1 SC37 Biometric Committee, Thailand Delegate** (Working Group 3: Biometric Data Interchange Formats)*, Observed Member (O-member)* since December 2009 - Present.

3.3) SERVICE AT OTHER SOCIETIES:

3.3.1) **Secretary**, *IEEE Communication Society*, Thailand Chapter, 2001-2002.

3.3.2) **Local Arrangement**, *Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI) Association*, Thailand 2003.

3.3.3) **Election Committee Secretary**, *ECTI Association*, October-December 2003.

3.3.4) **General ECTI Committee**, ECTI Association, January 2006-December 2009.

3.3.5) **Registrar,** ECTI Association, January 2010- December 2011.

3.3.6) **ECTI Vice President 1**, January 2020-December 2021.

3.3.7) **ECTI President, January 2022-December 2023**

3.4) SERVICE AT OTHER UNIVERSITY:

Dissertation and Thesis Committee for Several Universities in Thailand; Sirindhorn International Institute of Technology, Thammasart University, Mahanakorn University of Technology, King Mongkut's University of Technology Thonburi, King Mongkut's Institute of Technology North Bangkok, King Mongkut's Institute of Technology Lardkrabang.

1) **Committee**, Taweesak Samanchuen, PhD. candidate at Sirindhorn International Institute of Technology (SIIT), Thammasart University, 2001-2005.
2) **Committee**, Master Thesis for 3 graduate students at Mahanakorn University of Technology, 2001-present.
3) **Committee**, Master Thesis for 1 graduate student at King Mongkut's University of Technology Thonburi, 2003.
4) **Final Examination External Committee**, *Telecommunication Engineering, Shinawatra University, 2005-2007*

Year	Committee	Institute
November 30, 2002	Thesis Defense Examination Committee	Department of Electrical Engineering, Mahanakorn University of Technology, Bangkok
November 7, 2002	Thesis Defense Examination Committee	Department of Electrical Engineering, Mahanakorn University of Technology, Bangkok
Nov, 2002	Technical Curriculum Committee	Undergraduate Curriculum of Electrical Engineering, King Mongut Institute of Technology, North Bangkok

3.5) SOCIAL ACTIVITIES BEFORE GRADUATE PH.D.:

Year	Title
Oct 1992 – Dec 1994	President of Thai Student Association at Washington State University by election (60-80 Thai Students) ❑ Promote Thailand with Culture Festival Fair and Food Fair ❑ Thai Student Meeting Activities every semester

4) PUBLICATIONS:

	Publications	Research Fields			Total
		Biometrics	Agriculture	Others	
1	Books	2	-	1	3
2	International Journal	5	-	-	5
3	International Journal (Mentor & Cooperative Works)	1	1	2	4
4	Book Chapter/Lecture Notes	6	-	-	6
5	Major International Conference Proceeding	8	1	2	11
6	International & Regional Conference Proceeding	14	3	4	21
7	National Conference Proceeding	10	2	3	15
	Total	**46**	**7**	**12**	**65**

Books
1. V. Areekul, "Digital Signal Processing," June, 2006, 206 pages. (Thai Language)
2. V. Areekul, "Digital Fingerprint Processing," Department of Electrical Engineering, Kasetsart University, January 2014, 638 pages. (Thai Language)
3. White paper, "Personal Verification Using Biometric Systems," Electronic Transaction Development Agency (ETDA), January 2022, 110 pages. (Thai Language)

Standard Development
1. ETDA Recommendation on ICT Standard for Electronic Transactions, "Biometric Technology – Part 1: Biometric Technology Usage for Personal Verification," April 21, 2022, 39 pages. (Thai Language) https://www.etda.or.th/th/Our-Service/Recommendation.aspx
2. ETDA Recommendation on ICT Standard for Electronic Transactions, "Biometric Technology – Part 2: Facial Recognition Technology Usage for Personal Verification," April 21, 2022, 14 pages. (Thai Language) https://www.etda.or.th/th/Our-Service/Recommendation.aspx
3. ETDA Recommendation on ICT Standard for Electronic Transactions, "Biometric Technology Performance Testing," April 21, 2022, 66 pages. (Thai Language) https://www.etda.or.th/th/Our-Service/Recommendation.aspx
4. ETDA Recommendation on ICT Standard for Electronic Transactions, "Biometric Technology – Part 3: Fingerprint Recognition Technology Usage for Personal Verification," November 22, 2022, 20 pages. (Thai Language) https://www.etda.or.th/th/Our-Service/Recommendation.aspx
5. ETDA Recommendation on ICT Standard for Electronic Transactions, "Biometric Technology – Part 4: Iris Recognition Technology Usage for Personal Verification," November 22, 2022, 13 pages. (Thai Language) https://www.etda.or.th/th/Our-Service/Recommendation.aspx
6.

International Journals

1. A. Rungchokanun and V. Areekul, "Directionally Weighted Distance for Minutiae-Triplets Preservation on Elastic Deformation of Fingerprint Recognition," *Pattern Recognition Letters*, vol. 160, pp. 34-42, 2022.
2. K. Horapong, K. Srisutheenon, and V. Areekul, "Progressive and Corrective Feedback for Latent Fingerprint Enhancement Using Boosted Spectral Filtering and Spectral Autoencoder," *IEEE Access*, vol. 9, pp. 96288-96308, 2021, doi: 10.1109/ACCESS.2021.3093879.
3. C. Deerada, K. Phromsuthirak, A. Rungchokanun, and V. Areekul, "Progressive Focusing Algorithm for Reliable Pose Estimation of Latent Fingerprints," *IEEE Transactions on Information Forensics and Security*, vol 15, pp. 1232 – 1247, 2020.
4. P. Sutthiwichaiporn, V. Areekul, "Adaptive boosted spectral filtering for progressive fingerprint enhancement," *Pattern Recognition*, vol. 46, no. 9, pp. 2465-2486, September 2013. (Impact Factor 2012 = 2.632)
5. S. Jirachaweng, Z. Hou, W.Y. Yau, V. Areekul, "Residual orientation modeling for fingerprint enhancement and singular point detection," *Pattern Recognition*, vol. 44, no. 2, pp. 431–442, February 2011. (Impact Factor 2011 = 2.292)

International Journals (Mentor Works and Cooperative Works)

1. S. Nimitkul, K. Phromsuthirak, W. Taparhudee, V. Areekul, V. Oniam, and W. Arkronrat, "Automated molting detection system for commercial soft-shell crab (Portunus pelagicus) production," *SCIENCEASIA*, vol. 48, no. 5, pp. 614-622, 2022.
2. E. Phaisangittisagul, H. Troy Nagle, and V. Areekul, "Intelligent method for sensor subset selection for machine olfaction," *Sensors and Actuators B: Chemical*, vol.145, no. 1, pp. 507-515, 2010.
3. T. Kasetkasem, M.K. Arora, P.K. Varshney, and V. Areekul, "Improving subpixel classification by incorporating prior information in linear mixture models," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 49, no. 3, pp. 1001-1013, 2010.
4. S. Thainimit, C. Sreecholpech, V. Areekul, and C.H. Chu, "Robust Iris Segmentation Based on Local Image Gradient Properties," *IEICE Transactions on Information and Systems*, vol. 94, no. 2, pp. 349-356, 2011.

Book Chapter & Lecture Notes

1. W.Y. Yau, Z. Hou, V. Areekul, S. Jirachaweng, "Chapter 2: Fingerprint Recognition", *Biometrics: From Fiction to Practice*, Pan Stanford, August 31 2012, pp. 11 – 28.
2. S. Jirachaweng T. Leelasawassuk, and V. Areekul, "Performance and Computational Complexity Comparison of Block-based Fingerprint Enhancement," *Proceedings of International Conference on Biometrics (ICB2009)*, Alghero, Italy, June 2-5, 2009, Lecture Notes in Computer Science (LNCS5558), Springer-Verlag Berlin Heidelberg, pp. 656-665.
3. N. Boonchaiseree and V. Areekul, "Focal Point Detection Based on Half Concentric Lens Model for Singular Point Extraction in Fingerprint," *Proceedings of International Conference on Biometrics (ICB2009)*, Alghero, Italy, June 2-5, 2009, Lecture Notes in Computer Science (LNCS5558), Springer-Verlag Berlin Heidelberg, pp.637-646.
4. S. Jirachaweng and V. Areekul, "Fingerprint Enhancement Based on Discrete Cosine Transform," *Proceedings of International Conference on Biometrics (ICB2007)*, Seoul, Korea, August 27-29, 2007, Lecture Notes in Computer Science (LNCS4642), Springer-Verlag Berlin Heidelberg, pp. 96-105.
5. P. Thoonsaengngam, K. Horapong, S. Thainimit, and V. Areekul, "Efficient Iris Recognition using Adaptive Quotient Thresholding," *Proceedings of International Conference on Biometric (ICB2006)*, Hong Kong, January 5-7, 2006, Lecture Notes in Computer Science (LNCS3832), Springer-Verlag Berlin Heidelberg, pp. 472-478.
6. V. Areekul, U. Watchareeruetai, and S. Tantaratana, "Fast Separable Gabor Filter for Fingerprint Enhancement," *Proceedings of First International Conference on Biometric Authentication (ICBA2004)*, Hong Kong, July 15-17, 2004, Lecture Notes in Computer Science (LNCS3072), Springer-Verlag Berlin Heidelberg, pp. 403-409.

Major International Conference Proceedings

1. W. Chaidee, K. Horapong, and V. Areekul, "Filter Design Based on Spectral Dictionary for Latent Fingerprint Pre-Enhancement," *Proc. of IAPR Int. Conf. on Biometrics (ICB2018)*, Gold Coast, Queensland, Australia, 20-23 Feb, 2018, pp. 371-378.
2. P. Chaisuk, K. Phromsuthirak, and V. Areekul, "Leaf Classification Based on a Quadratic Curved Axis," *Proc. of IEEE Int. Conf. on Image Processing (ICIP2017)*, Beijing, China, 17-20 September, 2017, pp. 4472-4476.
3. P. Ruangsakul, V. Areekul, K. Phromsuthirak, and, A. Rungchokanun "Latent fingerprints segmentation based on Rearranged Fourier Subbands," *Proc. of IAPR Int. Conf. on Biometrics (ICB2015)*, Phuket, Thailand, 19-22 May, 2015, pp. 371-378.

4. K. Phromsuthirak and V. Areekul, "Fingerprint Quality Assessment Using Frequency and Orientation Subbands of Block-based Fourier Transform," *Proc. of IAPR Int. Conf. on Biometrics (ICB2013)*, Madrid, Spain, 4-7 June, 2013.
5. P. Sutthiwichaiporn, V. Areekul, and S. Jirachaweng, "Iterative Fingerprint Enhancement with Matched Filtering and Quality Diffusion in Spatial-Frequency Domain," *Proceeding of IAPR International Conference on Pattern Recognition 2010 (ICPR 2010)*, Istanbul, August 23-26, 2010, pp. 1257-1260.
6. S. Jirachaweng, Z. Hou, W.Y. Yau, and V. Areekul, "Residual Analysis for Fingerprint Orientation Modeling," *Proceeding of IAPR International Conference on Pattern Recognition 2010 (ICPR 2010)*, Istanbul, August 23-26, 2010, pp. 1196-1199.
7. V. Areekul, K. Suppasriwasuseth, and S. Jirachaweng, "The New Focal Point Localization Algorithm for Fingerprint Registration," *Proceeding of IAPR International Conference on Pattern Recognition 2006 (ICPR 2006)*, Hong Kong, August 20-24, 2006, vol. IV, pp. 497-500.
8. V. Areekul, U. Watchareeruetai, K. Suppasriwasuseth, and S. Tantaratana, "Separable Gabor Filter Realization for Fast Fingerprint Enhancement," *Proceeding of IEEE International Conference on Image Processing 2005 (ICIP 2005)*, Genova, Italy, September 11-14, 2005, vol. III, pp. 253-256.
9. S. Jirachaweng and V. Areekul, "Adaptive Directional Zerotree Image Coding," *Proceedings of IEEE International Symposium on Circuits and Systems (ISCAS2003),* Bangkok, Thailand, May 25-28, 2003, vol.2, pp.424-427.
10. K. Rerkrai and V. Areekul, "A New Reference Point for Fingerprint Recognition," *Proceedings of IEEE International Conference on Image Processing (ICIP2000)*, Vancouver, Canada, September 10-13, 2000, vol.2, pp. 499-502.
11. V. Areekul and R.H. Bamberger, "Orientation Adapted Subband Image Compression," *Proceedings of IEEE International Conference on Image Processing (ICIP1997)*, Santa Barbara, USA, vol.2, October, 1997, pp. 606-609.

International and Regional Conference Proceedings
1. A. Rungchokanun, W. Chaidee, C. Deerada, and V. Areekul, "Effect of Pre-Enhancement on False-Rejection Cases of Fingerprint Verification System," Proceedings of the 2020 17th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), June 24-27, 2020, pp. 291-295.
2. A. Rungchokanun, K. Srisutheenon, and V. Areekul, "Minutiae Selection using Reference Point for Fingerprint Data Interoperability and Identification," Proceedings of the 2020 17th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), June 24-27, 2020, pp. 439-442.
3. K. Phromsuthirak and V. Areekul, "Can We Distinguish Genuine Minutiae from Imposter Minutiae," Proceedings of the 2020 17th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), June 24-27, 2020, pp. 169-172.
4. K. Horapong, K. Srisutheenon, and V. Areekul, "Progressive Latent Fingerprint Enhancement Using Two-Stage Spectrum Boosting with Matched Filter and Sparse Autoencoder," Proceedings of the 2020 17th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), June 24-27, 2020, pp. 531-534.
5. K. Srisutheenon, K. Phromsuthirak, and V. Areekul, "Semi-automatic Progressive Enhancement for Latent Fingerprints," Proc. of the 9th Int. Conf. on Imaging crime detection and prevention (ICDP2019), London, UK, 16-18 December, 2019.
6. C. Deerada, K. Phromsuthirak, and V. Areekul, "Reference-Point Detection for Latent Fingerprint Images based on Spectrum Analysis," Proceedings of the 2018 15th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), July 18-21, 2018, pp. 477-480.
7. A. Rungchokanun, V. Areekul, S. Siddhichai, H. Kunieda, "Traffic Speed Measurement using Spatio-Temporal Model and Frequency Domain Analysis," Proceedings of the 2011 Electrical Engineering/ Electronics, Computer, Telecommunications and Information Technology (ECTI) International Conference, *(ECTI-CON 2011)*, Khon Kaen, Thailand, May 17-19, 2011, pp 1039-1042.
8. V.Areekul and N. Boonchaiseree, "Fast Focal Point Localization Algorithm for Fingerprint Registration," *Proceedings of the 3rd IEEE International Conference on Industrial Electronics and Applications* (ICIEA 2008), Singapore, June 3-5, 2008, pp. 2089-2094. (Invited Paper in Special Session on Pattern Analysis and Biometrics-1)
9. P. Thoonsangngam, S. Thainimit, V. Areekul, "Relative Iris Codes," *Proceedings of 2007 IEEE International Symposium on Signal Processing and Information Technology*, Egypt, December 15-18 2007, pp. 40-45.
10. S. Jirachaweng and V. Areekul, "Regional Adaptive Gabor Filtering for Fingerprint Enhancement," *Proceedings of International Workshop on Advanced Image Technology (IWAIT 2007)*, Bangkok, Thailand, January 8-9, 2007, pp. 614-619.

11. T. Leelasawassuk and V. Areekul, "Looped Minutiae Matching in Fingerprint Verification," *Proceedings of International Workshop on Advanced Image Technology (IWAIT 2007)*, Bangkok, Thailand, January 8-9, 2007, pp. 924-928.
12. V. Areekul, T. Leelasawassuk, K. Suppasriwasuseth, Suksan Jirachawang, and Ukrit Watchareeruetai, "Progress Research on Fingerprint Verification Algorithm in Thailand," Proceedings of the 2006 Electrical Engineering/ Electronics, Computer, Telecommunications and Information Technology (ECTI) International Conference, *(ECTI-CON 2006)*, Ubon Ratchathani, Thailand, May 10-13, 2006, pp 187-190. (Invited Paper)
13. W. Intato, I. Leelertyanon, V. Areekul, C. Charoenlarpnopparut, and S. Tantaratana, "Improvement of Slot Synchronization Process in WCDMA System by Using Reliability Measurement Parameter," Proceedings of the 2006 Electrical Engineering/ Electronics, Computer, Telecommunications and Information Technology (ECTI) International Conference, *(ECTI-CON 2006)*, Ubon Ratchathani, Thailand, May 10-13, 2006, pp 283-286.
14. V. Areekul, "Image Processing Researches for Agricultural Applications in Thailand," *Proceeding of the 6th International Symposium on Global Renaissance by Green Energy Revolution*, Nagaoka, Japan, January 26-27, 2006, pp 100-105. (Invited Paper)
15. K. Horapong, C. Sreecholpech, S. Thainimit, V. Areekul, "An Iris Verification Using Edge Detection," *Proceeding of 5th International Conference on Information, Communication, and Signal Processing (ICICS 2005)*, Bangkok, Thailand, December 6-9, 2005, pp 1434-1437.
16. P. Thoonsengngam, K. Horapong, S. Thainimit, and V. Areekul, "A New Shape-based Iris Recognition," *Proceeding of the 2005 Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI) International Conference (ECTI-CON 2005)*, Pattaya, Thailand, May 12-13, 2005, pp 83-86.
17. I. Leelertyanon and V. Areekul, "The Automatic Measurement of Silkworm Growth Rate and Leaf's Area Using Image Processing," *Proceedings of IEEE International Conference on Industrial Technology (ICIT2002)*, Bangkok, Thailand, December 11-14, 2002, pp. 242-245.
18. M. Ruchanurucks and V. Areekul, "The Measurement of Mealy Bug Population Using Image Processing Techniques", *The 2002 International Conference on Circuits/Systems, Computers and Communications* (ITC-CSCC 2002), Phuket, Thailand, July 16-19, 2002, vol.2, pp.1232-1235.
19. S. Jirachaweng and V. Areekul, "The Improvement of SPIHT Image Coding Using Block Coding for highly Textured Images," *Proceedings of International Symposium on Communications and Information Technology (ISCIT)*, Chiang Mai, Thailand, November 14-16, 2001, pp. 566-569.
20. K. Rerkrai and V. Areekul, "Fingerprint Verification Using the Focal Point as a Reference Point," *Proceedings of International Symposium on Communications and Information Technology (ISCIT)*, Chiang Mai, Thailand, November 14-16, 2001, pp. 464-467.
21. V. Areekul and R.H. Bamberger, "Directional Zerotrees Image Coding," *31st Annual Asilomar Conference on Signals, Systems, and Computers*, Monterey, USA, November, 1997, vol.1, pp. 684 – 688.

National Conference Proceedings
1. P. Thoonsaengngam, S. Thainimit, and V. Areekul, "Iris Recognition using Magnitude and Phase of Gabor Filter Response," *Proceedings of 30th Electrical Engineering Conference* (EECON-30), October 25-26, 2007, vol. II, pp. 753-756. (Thai Language)
2. S. Jirachaweng and V. Areekul, "Fingerprint Image Alignment Using Ridge Line Matching," *Proceedings of 30th Electrical Engineering Conference* (EECON-30), October 25-26, 2007, vol. II, pp. 689-692. (Thai Language)
3. N. Boonchaiseree and V. Areekul, "Focal Point Extraction of Fingerprint Using Directional Fields," *Proceedings of 30th Electrical Engineering Conference* (EECON-30), October 25-26, 2007, vol. II, pp. 729-732. (Thai Language)
4. N. Seansawat, T. Banmai, and V. Areekul, "Development of Fingerprint Verification Hardware Prototype Based on Digital Signal Processor," *Proceedings of 28th Electrical Engineering Conference* (EECON-28), October 20-21, 2005, vol. II, pp. 1009-1012. (Thai Language)
5. T. Champerat, U. Watchareeruetai, K. Suppasriwasuseth, and V. Areekul, "Fingerprint Verification Using Couple Minutiae Features with Focal Point Reference," *Proceedings of 27th Electrical Engineering Conference* (EECON-27), November 11-12, 2004, vol. II, pp. 185-188. (Thai Language)
6. K. Horapong, S. Thainimit, and V. Areekul, "Iris Texture Analysis with Polar Based Filtering: Preliminary Results," *Proceedings of the First Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI) Annual Conference*, May 13-14, 2004, pp.250-253. (English Language)
7. N. Aungkura, K. Horapong and V. Areekul, "Iris Pattern Verification Using Differential Water Level Thresholding," *Proceedings of 26th Electrical Engineering Conference* (EECON-26), November 6-7, 2003, pp. 1034-1039. (Thai Language)
8. U. Watchareeruetai and V. Areekul, "Fingerprint Verification Using Ridge Sampling," *Proceedings of 25th Electrical Engineering Conference* (EECON-25), November 21-22, 2002, pp. 25-29. (Thai Language)

9. K. Horapong and V. Areekul, "Iris Feature Extraction and Verification Using Texture Correlation," *Proceedings of 25th Electrical Engineering Conference* (EECON-25), November 21-22, 2002, pp. 30-34. (Thai Language)

10. M. Sangwattanachai, C. Siriburaparat, and V. Areekul, "Real-time Automatic Thai License Plate Reading," *Proceedings of 25th Electrical Engineering Conference* (EECON-25), November 21-22, 2002, pp. 20-24. (Thai Language)

11. M. Ruchanurucks and V. Areekul, "The Measurement of Mealy Bug Population by Image Processing," *Proceedings of 24th Electrical Engineering Conference* (EECON-24), November, 2001, pp. 1153-1158. (Thai Language)

12. C. Siricharoenchai and V. Areekul, "Car License Plate Extraction using Sharp Rising Edge Detection," *Proceedings of 24th Electrical Engineering Conference* (EECON-24), November, 2001, pp. 1176-1181. (Thai Language)

13. E. Laokulruch and V. Areekul, "Thai Vehicle License Plate Recognition Using Cut and Classification Method," *Proceedings of 24th Electrical Engineering Conference* (EECON-24), November, 2001, pp. 1260-1265. (Thai Language)

14. K. Phopariphat, K. Rerkrai, and V. Areekul, "The Measurement of Mealy Bug Population on Plant," *Proceedings of 23rd Electrical Engineering Conference* (EECON-23), November, 2000, pp. 557-560. (Thai Language)

15. C. Treethanachote and V. Areekul, "A Focal Point for Fingerprint Recognition," *Proceedings of 22nd Electrical Engineering Conference* (EECON-22), December, 1999, pp. 127-130. (English Language)