Thuong-Cang PHAN, Ph.D

Senior Lecturer in Informatics
Dean of Faculty of Computer Networks and Communications
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VIETNAM

SUMMARY OF QUALIFICATIONS:

- Ph.D's degree in Informatics, Master and Bachelor's degree in Computer Science.
- 25-plus years of university teaching experience in Vietnam and France.
- 23-plus years of experience in the analysis, design, development and implementation of software systems; solid skills of open source software tools, structured and unstructured databases, web services, service-oriented systems, web development, and semantic web.
- 12-plus years of extensive experience in the big data domain which includes analytics, query evaluation/optimization methods, and data processing algorithms and cost models.
- Experience architecting highly scalable, distributed knowledge management systems using different open source tools as well as designing and optimizing large-scale data warehouses, big knowledge management systems; Notably, able to integrate state-of-the-art big data technologies into the overall architecture and lead a team of developers through the construction, testing and implementation phase.
- Fluent in English and proficient in Vietnamese, DELF A2 degree in French.

PROFESSIONAL SKILLS

Specialized knowledge on almost aspects of technology:

Programming: Object-Oriented (Java and C^{++}); Web (PHP, Zend framework, JSP, HTML, CSS, JavaScript, Ajax, XML, and JSON); Semantic web (RDF, OWL, SPARQL and Sesame/Jena); Web services (XML, WSDL, Apache Axis2/Java and Apache Tuscany).

Big data framework: Hadoop and Spark (installation, configuration, and administration on computer clusters).

Big data Analytics: MapReduce (Java and C^{++}); Query optimization on large-scale data (two-way and multi-way joins, recursive joins, Bloom filters, Difference filters, Approximate Reconciliation Trees, Difference Digest); Data mining algorithms (k-Means, PageRank, kNN, Semi-Naïve, find friends of friends, collaborative filtering), Medical image processing.

Data storage:	NoSQL (HDFS, CouchDB, and HBase); RBDMS (MySQL and Oracle).
Modeling:	Service-Oriented method (SOA and SCA); Object-Oriented method (UML); structured method (Data Flow Diagrams, Entity Relationship Diagrams).
Tools:	Adobe Dreamweaver, Eclipse, SCA Composite Designer, WindowBuilder, Microsoft visual studio, Subversion, Rational Rose, Power Designer.
Computing platform:	Linux and Windows.
Project Management:	project management for software development processes.

LIST OF RELEVANT COURSE WORK

Big data analytics with MapReduce and Spark, High-performance computing, Object-Oriented programming with Java/C^{++}, Java GUI programming, Developing service-oriented applications, Database management systems, Web technology, Web programming, Web security, Operating systems, Introduction to the Internet.

SCHOLARSHIPS AND AWARDS

2015-2016 Win a postdoctoral fellowship at LARIDEPED, Université du Québec à Trois-Rivières, Canada (Project 2014-NP-173669 of the FRQSC - The Fonds de recherche du Québec, Société et culture).

2011-2014 Win a competitive PhD scholarship to study in France from the Ministry of Education and Training of Viet Nam (Project 322- training overseas human resources with Government's budget).

2004-2006 Win a competitive scholarship for Master study in Thailand from the Ministry of Education and Training of Viet Nam.

EDUCATION:

Postdoctoral *Economic Science*   *2015-2016*

The LARIDEPED laboratory (Research and intervention laboratory on business development in developing countries),
University of Quebec at Trois-Rivieres (UQTR), Quebec, Canada.
- Advisor: *Professor Thang LE DINH.*
- Dissertation: *"A Service-Oriented Framework for Big Data-Driven Knowledge Management Systems".*
- Language for research: *English.*

Ph.D   *Informatics*   *2011-2014*

Université Blaise Pascal (UBP), Clermont Ferrand, France
- Advisor: *Professor Philippe Rigaux (CNAM, Paris),*
          Assistant professor Laurent d'Orazio (UBP).
- Dissertation: *"Optimization for big joins and recursive query evaluation using intersection and difference filters in MapReduce".*
- Language for research: *English.*

M.S	**_Computer Science,_**	**_2004-2006_**

Asian Institute of Technology (AIT), Bangkok, Thailand
- Master degree of Engineering
- Thesis: *"A grid-based system to support e-Migration"*
- Language for research: *English.*

B.S	**_Computer Science,_**	**_1993-1998_**

Can Tho University, Can Tho city, Vietnam

PROFESSIONAL CERTIFICATIONS AND TRAINING

_2013_   **_Data all around Big, Linked, Open_**
- Participate in the EDBT Summer School 2013 for gaining deeper insight into current research trends in the database area at Aussois, France.

_2009_   **_Teacher training program_**
- Participate in a teacher training program in teaching and research at the Research Institute for SMEs, UQTR, Canada.

_1999_   **_Software engineering_**
- Participate in a training course on software engineering in Hanoi held by Viet Nam – Canada Information Technology Project.

UNIVERSITY TEACHING EXPERIENCE:

Lecturer,   **_College of Information and communication technology 1998-present_**
Can Tho University, Can Tho city, Vietnam
- Offered a lot of courses in several subjects such as Big data analytics, High-performance computing, Developing service-oriented applications, Web Programming, Web security, Object-oriented programming (Java/C^{++}), and Operating systems.

Instructor,   **_Pôle Universitaire et Technologique de Vichy_**   **_2012_**
Université Blaise Pascal, Clermont-Ferrand, France
- Developed overall course structure, content in lecture and administered marks for the subject: Java GUI programming.
- Co-advised for one master student with Ass. Prof. Laurent d'Orazio.

BOOKS:

	Book Name	**Role**	**Year**
1	Web programming (ISBN: 978-604-919-495-5)	Author	2015
2	Service-Oriented Application Developing	Editor	2017

TOPICS:

Topic	Year	Level	Role
Optimizing Recursive Joins on large data sets in MapReduce environment with Spark Code: TCN2016-13	6/ 2015 to 6/2016	Grassroots level (Code: TCN2016-13)	Leader

PROFESSIONAL EXPERIENCE:

2015-2016 **Big data-driven knowledge management systems**
- *Thesis*: "A Service-Oriented Framework for Big Data-Driven Knowledge Management Systems", University of Quebec at Trois-Rivieres (UQTR), Quebec, Canada.
- *Description*: Enterprises nowadays are intensifying their efforts to create value through big data initiatives as well as knowledge management systems to outperform their competitors. Big data is considered as a revolution that transforms traditional enterprises into Data-Driven Organizations (DDOs) in which knowledge discovered from big data will be integrated into traditional organizational knowledge to improve decision-making and to facilitate organizational learning. This paper proposes a service-oriented framework for designing a new generation of big data-driven knowledge management systems to help enterprises to promote knowledge development and to obtain more business value from big data. The key artefacts of the framework are presented based on design science research, including constructs, model, and method. The objective of the framework is to promote both knowledge exploration and knowledge exploitation that need to take place simultaneously in DDOs.

2011-2014 **Query evaluation for large-scale databases**
- *Thesis*: "Optimization for big joins and recursive query evaluation using intersection and difference filters in MapReduce", Blaise Pascal University, Clermont-Ferrand, France.
- *Description*: the project devised many optimized solutions for expensive and complex joins on large-scale datasets. In this work, we proposed the novel intersection and difference filters, optimized algorithms, general cost models, and our extension with filter-based approaches covering binary joins, multi-way joins and recursive joins, and addressed the case of large inputs that gives rise to the most intricate challenges. As a result, the research demonstrated the effectiveness of our proposals, both analytically with cost models and practically with evaluations. It stands as a first step toward the design of an optimizer for distributed query processing, apt at considering complex integration of iterative, recursive and multi-set operators on large-scale datasets. Notably, our improvements contribute to the global scene of optimizing data management for MapReduce applications on large-scale distributed infrastructures.

- *Website*: https://tel.archives-ouvertes.fr/tel-01066612
- *Responsibilities*:
  o Perform all the really hard work.
  o Be a senior programmer for all the proposed solutions.
  o Use big data analytics technologies (Apache Hadoop, HaLoop, MapReduce).
  o Use open source tools (Eclipse, VM VirtualBox, KVM, Ubuntu Linux) and programming language (Java).

2011-2013   *Data management in Cloud computing*
- *International project*: "Optimized data management in the Cloud – GOD", Blaise Pascal University, Clermont-Ferrand, France.
- *Description*: the project aims to provide an optimized data management system on clouds by rethinking traditional database management techniques, extending them to consider the specificities of these new infrastructures.
- *Members*: Université Blaise Pascal (France), Université de Cergy Pontoise (France), Université Paris Sud (France), Can Tho Universitéy (Vietnam), HELP University (Malaysia), and University of Indonesia (Indonesia).
- *Website*: http://home.isima.fr/god/index.html
- *Responsibilities*:
  o Design, optimize and evaluate complex join algorithms in Cloud environment.
  o Be technical group's member.

2008- 2010   *Semantic Web and Web service*
- *National project*: "Semantic support services for farmers in searching for information on diseases in agriculture", Can Tho University, Can Tho city, Vietnam.
- *Description*: it is a part of the national project "Design and Development of Information Systems for Supporting the Protection against Epidemic Diseases of Crop Plants and Aquaculture in Major Economic Areas" (KC.01.15/06-10), by Dr. Le Quyet Thang. This project was funded by the Vietnamese National Science and Technology Program - KC.01/06-10.
- *Responsibilities*:
  o Manage, design and build the project.
  o Propose and implement the SOA-based system architecture and ontologies for diseases on rice, shrimp, and fish.
  o Be technical group's member: Web technology (Ajax, SOA, Web service and semantic Web), Open source software (Eclipse, MySQL, Sesame and Protégé).

2009- 2010   *Parallel algorithms in Cloud computing environment*
- *Local project:* "A university course scheduling strategy based on genetic algorithm in cloud computing environment", Can Tho University, Can Tho city, Vietnam.
- *Description*: the project established a private cloud hosting proposed services. It developed the services such as a scheduling service using the genetic algorithm and information services for universities

attending in credit system. Developing the cloud services allows users quick and easy access the system from PCs or portable devices connected to the Internet without regard to their processing and storage capacity. Besides, the system can be extended following customers-service business model.
- *Responsibilities*:
    o Be project manager
    o Be technical group's member: Web technology, Cloud computing, programming language (C^{++}, PHP), open source software (Eclipse, Mysql, Eucalyptus, Ubuntu)
    o Analyze & design the SOA-based system architecture
    o Develop the information and scheduling services.

10/2008   ***Cooperation with VCCI-Cantho Viet Nam in consulting and deploying open source CRM and ERP software for Mekong Delta provinces' enterprises***
- *Responsibilities*:
    o Survey CRM-ERP open source software products
    o Compose documentation, offer training courses, consult about CRM-ERP systems, develop and deploy the CRM-ERP software products in enterprises

2006-2008   ***Software development***
- *Local project:* "Mekong 1000 Project Management System", Can Tho University, Can Tho city, Vietnam.
- *Description*: it is a part of Project for training overseas human resources of thirteen southern cities in Viet Nam. It suggested a new management way to thirteen southern cities in Viet Nam which can follow up 1000 candidates from their application for the program to their graduation, their future work and their remarkable contributions.
- *Responsibilities*:
    o Be project manager.
    o Analyze, and design the system (UML & Rational Rose).
    o Build a web application for the system (DHTML, JavaScript, XML, AJAX, PHP, Oracle9i DB).
    o Deploy, test and maintain the system.

LIST OF PUBLICATION

	Paper	Year	Journa/Conference
1.	Anh-Cang Phan, Thanh-Ngoan Trieu, Thuong-Cang Phan, Driver drowsiness detection and smart alerting using deep learning and IoT, ISSN 2542-6605, Internet of Things, Volume 22, 2023, 100705,	2023	Journal of Internet of Things (ISSN / eISSN: 2543-1536 / 2542-6605); SCIE (Science Citation Index Expanded), Q1 Scopus IF: 5.711, Citescore 10.2

	https://doi.org/10.1016/j.iot.2023.100705. (https://www.sciencedirect.com/science/article/pii/S2542660523000288)		
2.	Phan Anh Cang, Cao Hùng Phi, Lê Thị Ngưu Huỳnh, Triệu Thanh Ngoan, Phan Thượng Cang; Improving liver lesions classification on CT/MRI images based on Hounsfield Units attenuation and deep learning; ISSN 1567-133X, Gene Expression Patterns, 2022, 119289, https://doi.org/10.1016/j.gep.2022.119289.	2022	Journal of Gene Expression Patterns (ISSN 1567-133X), SCIE (Science Citation Index Expanded), Q3 Scopus IF: 1.488, Citescore 2.2
3.	Anh-Cang Phan, Thuong-Cang Phan, Hung-Phi Cao, Thanh-Ngoan Trieu; Comparative Analysis of Skew-Join Strategies for Large-Scale Datasets with MapReduce and Spark; ISSN 2076-3417, Applied Sciences 12, no. 13: 6554. https://doi.org/10.3390/app12136554	2022	Journal of Applied Sciences, Special Issue New Challenges in Big Data Analytics and Applications (ISSN 2076-3417). SCIE (Science Citation Index Expanded), Q2 Scopus IF: 2.838, Citescore 3.7
4.	Thuong-Cang Phan, Anh-Cang Phan, Hung-Phi Cao, Thanh-Ngoan Trieu; Content-Based Video Big Data Retrieval with Extensive Features and Deep Learning; ISSN 2076-3417, Applied Sciences 12, no. 13: 6753. https://doi.org/10.3390/app12136753	2022	Journal of Applied Sciences, Special Issue Recent Advances in Deep Learning for Image Analysis (ISSN 2076-3417). SCIE (Science Citation Index Expanded), Q2 Scopus IF: 2.838, Citescore 3.7
5.	Phan, Anh-Cang, Thuong-Cang Phan, and Thanh-Ngoan Trieu. 2022. "A Systematic Approach to Healthcare Knowledge Management Systems in the Era of Big Data and Artificial Intelligence" Applied Sciences 12, no. 9: 4455. https://doi.org/10.3390/app12094455	2022	Journal of Applied Sciences, Special Issue Advances in Deep Learning-Based Information Processing for Big Data Analytics and Digital Transformation (ISSN 2076-3417). SCIE (Science Citation Index Expanded), Q2 Scopus IF: 2.838, Citescore 3.7
6.	Phan Thượng Cang, Phan Anh Cang, Trần Quốc Thịnh, Triệu Thanh Ngoan; Lung Lesions Segmentation and Classification with Deep Neural Networks; Future Data and Security Engineering. Big Data, Security and Privacy, Smart City and Industry 4.0 Applications. FDSE 2022. Communications in Computer and	2022	Communications in Computer and Information Science, (CCIS), Q4 (FULL paper) Book Chapter

	Information Science, vol 1688. Springer, Singapore. https://doi.org/10.1007/978-981-19-8069-5_45		
7.	Phan, TC., Phan, AC., Tran, TKN., Trieu, TN. (2022). Covid-19 Detection Based on Lung Lesion Signs in Big Data Processing Environment. In: Dang, T.K., Küng, J., Chung, T.M. (eds) Future Data and Security Engineering. Big Data, Security and Privacy, Smart City and Industry 4.0 Applications. FDSE 2022. Communications in Computer and Information Science, vol 1688. Springer, Singapore. https://doi.org/10.1007/978-981-19-8069-5_10	2022	Communications in Computer and Information Science, (CCIS), Q4 (FULL paper) Book Chapter
8.	Phan, AC., Tran, HD., Trieu, TN., Phan, TC. (2022). Deep Learning-Based Pneumonia Detection Using Big Data Technology. In: Dang, N.H.T., Zhang, YD., Tavares, J.M.R.S., Chen, BH. (eds) Artificial Intelligence in Data and Big Data Processing. ICABDE 2021. Lecture Notes on Data Engineering and Communications Technologies, vol 124. Springer, Cham. https://doi.org/10.1007/978-3-030-97610-1_20	2022	ICABDE 2021. Lecture Notes on Data Engineering and Communications Technologies. Springer, Cham Book Chapter
9.	Phan Thượng Cang, Trần Thị Tố Quyên; MỘT ĐỀ XUẤT THUẬT TOÁN FUZZY JOIN TRONG XỬ LÝ DỮ LIỆU LỚN; Nhà xuất bản Khoa học tự nhiên và Công nghệ, FAIR, 2022	2022	FAIR 2022
10.	Phan Thượng Cang, Phan Anh Cang, Trương Minh Toàn; PHÂN LOẠI BỆNH ALZHEIMER TRÊN ẢNH CHỤP CỘNG HƯỞNG TỪ CỦA NÃO VỚI KỸ THUẬT HỌC SÂU; Nhà xuất bản Khoa học tự nhiên và Công nghệ, FAIR, 2022	2022	FAIR 2022
11.	Phan Thượng Cang, Phan Anh Cang, Trần Hồ Đạt; PHÁT HIỆN VÀ KHOANH VÙNG TỔN THƯƠNG PHỔI DO COVID-19 TRÊN ẢNH XQUANG BẰNG PHƯƠNG PHÁP DEEP LEARNING; Nhà xuất bản	2022	FAIR 2022

	Khoa học tự nhiên và Công nghệ, FAIR, 2022		
12.	Anh-Cang PHAN, Thanh-Ngoan TRIEU, Thuong-Cang PHAN, Recursive Join Processing In Big Data Environment, Journal of Computer Science and Cybernetics, ISSN: 1813-9663, Vol.37, No.2, pp. 107-122, 2021. DOI 10.15625/1813-9663/37/2/15889	2021	Journal of Computer Science and Cybernetics
13.	Anh-Cang PHAN, Thuong-Cang PHAN, Thanh-Ngoan TRIEU, Thi-To-Quyen TRAN, A theoretical and experimental comparison of large-scale join algorithms in Spark, Journal of Springer Nature Computer Science (SNCS), Springer-Verlag, ISSN 2661-8907, SCI. 2, Vol.2, No.5: 352, 2021. https://doi.org/10.1007/s42979-021-00738-x	2021	Journal of Springer Nature Computer Science
14.	Anh-Cang Phan, Ngoc-Hoang-Quyen Nguyen, Thanh-Ngoan Trieu, Thuong-Cang Phan, An Efficient Approach for Detecting Driver Drowsiness Based on Deep Learning, Computing and Artificial Intelligence section in Journal of Applied Sciences, ISSN 2076-3417, Volume 11, Issue 18, 8441, 2021. https://doi.org/10.3390/app11188441	2021	Journal of Applied Sciences, Computing and Artificial Intelligence, a Section (ISSN 2076-3417). SCIE (Science Citation Index Expanded), Q2 Scopus IF: 2.679, Citescore 3.0 Scopus, h-index 52
15.	Anh-Cang PHAN, Ho-Dat TRAN, and Thuong-Cang PHAN, Efficient Brain Hemorrhage Detection on 3D CT Scans with Deep Neural Network, in Proceeding of the 8th International Conference on Future Data and Security Engineering (FDSE 2021), Lecture Notes in Computer Science, (LNCS/Springer), ISSN 0302-9743, E-ISSN 1611-3349, Vol. 13076, ISBN 978-3-030-91386-1, E-ISBN 978-3-030-91387-8, pp. 81-96, 2021. https://doi.org/10.1007/978-3-030-91387-8_6	2021	Lecture Notes in Computer Science, (LNCS/Springer), Q2, Scopus (FULL paper) Book Chapter
16.	Phan Anh Cang, Le Thi Nguu Huynh, Phan Thuong Cang PHÂN LOẠI CÁC TỔN THƯƠNG	2021	FAIR 2021

	THƯỜNG GẶP Ở GAN DỰA VÀO CHỈ SỐ HOUNSFIELD VÀ KỸ THUẬT HỌC SÂU, Hội nghị khoa học công nghệ quốc gia lần thứ XIV, Nghiên cứu cơ bản và ứng dụng CNTT, ISBN: 978-604-9988-60-8, Nhà xuất bản Khoa học tự nhiên và Công nghệ, pp. 17-25, TP.HCM, Vietnam, FAIR, 12/2021 *DOI 10.15625/vap.2021.0038*		
17.	Phan Anh Cang, Le Phuong Thao, Phan Thuong Cang, TRUY VẤN VIDEO DỰA VÀO NỘI DUNG BẰNG PHƯƠNG PHÁP DEEP NEURAL NETWORKS, Hội nghị khoa học công nghệ quốc gia lần thứ XIV, Nghiên cứu cơ bản và ứng dụng CNTT, ISBN: 978-604-9988-60-8, Nhà xuất bản Khoa học tự nhiên và Công nghệ, pp. 34-42, TP.HCM, Vietnam, FAIR, 12/2021 *DOI 10.15625/vap.2021.0040*	2021	FAIR 2021
18.	Phan Anh Cang, Phan Thuong Cang, Tran Ho Dat PHÁT HIỆN TỔN THƯƠNG PHỔI BẰNG KỸ THUẬT HỌC SÂU TRONG MÔI TRƯỜNG XỬ LÝ SONG SONG SPARK, Hội nghị khoa học công nghệ quốc gia lần thứ XIV, Nghiên cứu cơ bản và ứng dụng CNTT, ISBN: 978-604-9988-60-8, Nhà xuất bản Khoa học tự nhiên và Công nghệ, pp. 75-83, TP.HCM, Vietnam, FAIR, 12/2021 *DOI: 10.15625/vap.2021.0045*	2021	FAIR 2021
19.	Phan Anh Cang, To Huynh Thien Truong, Cao Hùng Phi, Phan Thuong Cang, MỘT TIẾP CẬN HIỆU QUẢ TRONG NHẬN DIỆN KHUÔN MẶT SỬ DỤNG KỸ THUẬT HỌC SÂU VỚI MẠNG CGAN VÀ SRGAN, Hội nghị khoa học công nghệ quốc gia lần thứ XIV, Nghiên cứu cơ bản và ứng dụng CNTT, ISBN: 978-604-9988-60-8, Nhà xuất bản Khoa học tự nhiên và Công nghệ, pp. 84-91, TP.HCM, Vietnam, FAIR, 12/2021 *DOI: 10.15625/vap.2021.0046*	2021	FAIR 2021
20.	Phan Anh Cang, Nguyen Thi Kim Luong, Phan Thuong Cang, MỘT	2021	FAIR 2021

	TIẾP CẬN XỬ LÝ DỮ LIỆU LỚN TRONG PHÁT HIỆN CÁC TỔN THƯƠNG GAN DỰA TRÊN CHỈ SỐ HOUNSFIELD, Hội nghị khoa học công nghệ quốc gia lần thứ XIV, Nghiên cứu cơ bản và ứng dụng CNTT, ISBN: 978-604-9988-60-8, Nhà xuất bản Khoa học tự nhiên và Công nghệ, pp. 166-174, TP.HCM, Vietnam, FAIR, 12/2021 *DOI: 10.15625/vap.2021.0056*		
21.	Anh-Cang PHAN, Ho-Dat TRAN, Thanh-Ngoan TRIEU, and Thuong-Cang PHAN, Deep Learning-Based Pneumonia Detection Using Big Data Technology, Artificial Intelligence in Data and Big Data Processing, in Proceeding of the 2021 International Conference on Artificial Intelligence and Big Data in Digital Era (ICABDE 2021), Lecture Notes on Data Engineering and Communications Technologies, (LNDECT/Springer), ISSN 2367-4512, E-ISSN 2367-4520, Vol. 13076, ISBN 978-3-030-91386-1, E-ISBN 978-3-030-91387-8, pp. 81-96, 2021. https://doi.org/10.1007/978-3-030-91387-8_6	2021	**LNDECT/**Springer Book Chapter
22.	Anh-Cang Phan, Thuong-Cang Phan and Thanh-Ngoan Trieu, A Comparative Study of Join Algorithms in Spark, Proceeding of the 7th International Conference on Future Data and Security Engineering (FDSE), Lecture Notes in Computer Science (LNCS/Springer), ISSN 0302-9743, E-ISSN 1611-3349, Vol. 12466 ISBN 978-3-030-63923-5, E-ISBN 978-3-030-63924-2, pp. 185-200, 2020. https://doi.org/10.1007/978-3-030-63924-2	2020	Lecture Notes in Computer Science, (LNCS/Springer), Q2 (FULL paper) Book Chapter
23.	Anh-Cang Phan, Hung-Phi Cao, Thanh-Ngoan Trieu and Thuong-Cang Phan, Detection and Classification of Brain Hemorrhage Using Hounsfield Unit and Deep Learning Techniques, Proceeding of	2020	Communications in Computer and Information Science, (CCIS), Q3 (FULL paper) Book Chapter

	the 7th International Conference on Future Data and Security Engineering (FDSE), Communications in Computer and Information Science (CCIS/Springer), ISSN 1865-0929, E-ISSN 1865-0937, Vol. 1306, ISBN: 978-981-33-4369-6, pp. 281-293, 2020. DOI 978-981-33-4370-2_20		
24.	Thuong-Cang Phan, Anh-Cang Phan and Thanh-Ngoan Trieu, Real-time Opinion Extraction and Classification for Vietnamese Posts on Social Networks, Proceeding of the twelfth IEEE International Conference on Knowledge and Systems Engineering (IEEE KSE 2020), ISBN: 978-1-7281-4510-5, pp. 19-24, 2020.	2020	IEEE KSE (Long Paper) Book Chapter
25.	Anh-Cang Phan, Phương Thảo LÊ and Thượng-Cang Phan, Hệ thống tìm kiếm video theo hướng tiếp cận xử lý dữ liệu lớn, Hội thảo quốc gia lần thứ XXIII - Một số vấn đề chọn lọc của CNTT & TT (the 23rd National Symposium of Selected ICT Problems), ISBN: 978-604-67-1744-7, NXB KHKT, pp.131-136, 2020.	2020	Hoi thao @ 23
26.	Phan Anh Cang, Nguyễn Thanh Hoàng, Trần Hồ Đạt, Nguyễn Văn Hiếu and Phan Thượng Cang, NHẬN DẠNG HÌNH ẢNH THỰC PHẨM BẰNG PHƯƠNG PHÁP DEEP LEARNING, Hội nghị khoa học quốc gia, Nghiên cứu cơ bản và ứng dụng CNTT, ISBN: 978-604-9985-77-5, pp. 420-428, Nha Trang, Vietnam, FAIR, 2020.	2020	FAIR 2020
27.	Trieu Thanh Ngoan, Phan Anh Cang and Phan Thuong Cang, MỘT ĐỀ XUẤT CẢI TIẾN THUẬT TOÁN JOIN ĐỆ QUI TRÊN TẬP DỮ LIỆU LỚN, Hội nghị khoa học quốc gia, Nghiên cứu cơ bản và ứng dụng CNTT, ISBN: 978-604-9985-77-5, pp. 245-253, Nha Trang, Vietnam, FAIR, 2020	2020	FAIR 2020
28.	Phan Anh Cang, Trần Phan An	2020	FAIR 2020

	Trường, and Phan Thuong Cang, PHÁT HIỆN VÀ ĐỊNH LƯỢNG TỔN THƯƠNG DO XUẤT HUYẾT NÃO SỬ DỤNG CHỈ SỐ HOUNSFIELD VÀ MẠNG NƠRON R-FCN, Hội nghị khoa học quốc gia, Nghiên cứu cơ bản và ứng dụng CNTT, ISBN: 978-604-9985-77-5, pp. 475-482, Nha Trang, Vietnam, FAIR, 2020		
29.	Thanh-Ngoan Trieu, Anh-Cang Phan and Thuong-Cang Phan, An Efficient Approach for Improving Recursive Joins Based on Three-Way Joins in Spark, in proceedings of the 12th International Conference on Computational Collective Intelligence (ICCCI 2020), published by Springer in series Lecture Notes in Artificial Intelligence CCIS 1287/LNAI., ISBN: 978-3-030-63118-5, volume 1287, pp. 566-578, DOI 978-3-030-63119-2_46, 2020.	2020	CCIS/LNAI Q3, Scopus, H-Index 18, Avg citations/item 2,70 Book Chapter
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