

CURRICULUM VITAE

GENERAL INFORMATION

Hien D. Nguyen

Office:

University of Information Technology, Vietnam National University – Ho Chi Minh city

Faculty of Computer Science

Department of Artificial Intelligence



Email: hiennd@uit.edu.vn

Research Interested: knowledge representation, automated reasoning, knowledge engineering, intelligent system, expert system, artificial intelligence.

My research is developing models for knowledge representations and designing knowledge bases. Besides, I also study reasoning methods, especially for reality applications. I apply results of my study for designing the intelligent systems, such as: Intelligent problem solvers for e-education, knowledge management systems.

EDUCATION

2020: Ph.D of Computer Science, University of Information Technology, VNU-HCM

2011: Master of Computer Science, University of Science, VNU-HCM

2008: Bachelor of Honor Program, Mathematics and Informatics, University of Science, VNU-HCM

WORKING

June 2008 – now: Leturer at Faculty of Computer Science, University of Information Technology, VNU-HCM, Vietnam.

Jan. 2018 – Feb. 2018: Visiting researcher at Artificial Intelligence lab., Wakayama University, Japan.

March 2017 – Sept. 2017: Visiting researcher at Inference and Learning lab., National Institute of Informatics (NII), Japan.

PROJECTS

- [1] *Design an engine for searching about the knowledge of programming based on knowledge base*, funded by Vietnam National University – Ho Chi Minh city, DSC2021-26-07, 2021 – 2023, PI.
- [2] *In-depth social network influence and advocacy measurement*, funded by VinTech Fund, DA132-15062019, Oct. 2019 – April 2021, PI.
- [3] *Build a knowledge model of combining relations and operators*, funded by Vietnam National University – Ho Chi Minh city, C2019-26-01, March 2019 – Sept. 2020, PI. Finished: May. 2020
- [4] *Criteria of a knowledge model for an intelligent problems solver in education*, funded by University of Information Technology (VNU-HCM), D1-2018-03, Oct. 2018 – Oct. 2019, PI. Finished: May. 2019
- [5] *Algebraic approach for Knowledge domain have Operators*, funded by Vietnam National University – Ho Chi Minh city, C2016-26-06, May 2016 – Nov. 2017, PI. Finished: Jan. 2018

- [6] *Knowledge model about relations and Application*, funded by University of Information Technology (VNU-HCM), D2013-01, Sep. 2013 – March 2015, PI. Finished.
- [7] *Reasoning method on COKB model using Sample Problems in knowledge domain about Plane Geometry*, funded by University of Information Technology (VNU-HCM), C2012-01, March 2012 – March 2013, PI. Finished.

PUBLICATIONS

Books

- [1] Hien D. Nguyen, Nhon V. Do, Vuong T. Pham, *Chapter 13: A methodology for designing knowledge-based systems and applications*, A. Elngar, et al. (Eds.), *Applications of Computational Intelligence In Multi-Disciplinary Research*, ISBN: 978-0-12-823978-0, Elsevier. (2022)
- [2] Nhon V. Do, Hien D. Nguyen, *Knowledge-based Systems*, ISBN: 978-604-73-5399-6, Publisher of VNU-HCM (2017) (Vietnamese).
- [3] Hien D. Nguyen, Diem Nguyen, Van L. Ho, *Workbook: Artificial Intelligence*, ISBN: 978-604-73-4106-1, Publisher of VNU-HCM (2016) (Vietnamese).
- [4] Hien D. Nguyen, Van L. Ho, Diem Nguyen, *Workbook: Symbolic Programming in Artificial Intelligence*, ISBN: 978-604-73-2658-7, Publisher of VNU-HCM (2015) (Vietnamese).

International Journals

- [1] Quan M. Tran, Hien D. Nguyen, Tai Huynh, Kha V. Nguyen, Suong N. Hoang, Vuong T. Pham, “*Measuring the Influence and Amplification of users on Social Network with Unsupervised Behaviors Learning and Efficient Interaction-based Knowledge Graph*”, *Journal of Combinatorial Optimization (JOCO)*, 2021. SCIE. Accepted
- [2] Vuong T. Pham, Hai Nguyen, Pham The Bao, Tat-Bao-Thien Nguyen, Hien D. Nguyen, “*Robust engineering-based unified biomedical imaging framework for liver tumor segmentation*”, *Current Medical Imaging (CMIM)*, 2021. SCIE. Accepted
- [3] Hien D. Nguyen, Tuan-Vi Tran, Xuan-Thien Pham, Anh T. Huynh, Nhon V. Do, “*Ontology-based Integration of Knowledge Base for Building an Intelligent Searching Chatbot*”, *Sensors and Materials*, 33(9), pp. 3101 - 3121, 2021. SCIE
- [4] Tai Huynh, Hien D. Nguyen, Ivan Zelinka, Kha V. Nguyen, Vuong T. Pham, Suong N. Hoang, “*ADVO: A system to manage influencer marketing campaigns on social network*”, *Applied Sciences*, 11(14), 6497, 2021. SCIE
- [5] Hien D. Nguyen, Chiaki Sakama, Taisuke Sato, Katsumi Inoue, “*An Efficient Reasoning Method on Logic Programming using Partial Evaluation in Vector Spaces*”, *Journal of Logic and Computation (JLC)*, 31(5): 1298 – 1316, 2021. SCIE
- [6] Hieu Nguyen, Vinh P. Tran, Vuong T. Pham, Hien D. Nguyen, *Design a learning model of mobile vision to detect diabetic retinopathy based on the improvement of MobileNetV2*, *Int. J. Digital Enterprise Technology (IJDET)*, 2021. In publishing.

- [7] Minh N. Phan, Hien D. Nguyen, Dung A. Tran, Trong T. Le, Nha P. Tran, *Design an Intelligent Problem Solver in Geometry based on Knowledge Model of Relations*, Engineering Letters, Vol. 28, No. 4, pp. 1108 – 1117, (2020). ESCI, Scopus.
- [8] Hien D. Nguyen, Dung A. Tran, Huan P. Do, Vuong T. Pham, *Design an intelligent system to automatically tutor the method for solving problems*, International Journal of Integrated Engineering (IJIE), Vol. 12, No. 7, pp. 211 – 223, (2020). Scopus
- [9] Hien D. Nguyen, Nhon V. Do, Nha P. Tran, Xuan Hau Pham, Vuong T. Pham, *Some criteria of the Knowledge Representation method for an Intelligent Problem Solver in STEM education*, Applied Computational Intelligence and Soft Computing, Vol. 2020, Article ID 9834218, (2020). ESCI, Scopus.
- [10] Hien D. Nguyen, Nhon V. Do, Vuong T. Pham, Ali Selamat, E. Herrera-Viedma, *A method for knowledge representation to design Intelligent Problems Solver in mathematics based on Rela-Ops model*, IEEE Access, Vol. 8, pp. 76991–77012, 2020. DOI: 10.1109/ACCESS.2020.2988929.
- [11] Tai Huynh, Hien D. Nguyen, Ivan Zelinka, Dac H. Dinh, Xuan Hau Pham, *Detecting the influencer on social network using passion point and measures of information propagation*, Sustainability 2020, 12(7), 3064.
- [12] Hien D. Nguyen, Nhon V. Do, Nha P. Tran, Xuan Hau Pham, Vuong T. Pham, *Some criteria of the Knowledge Representation method for an Intelligent Problem Solver in STEM education*, Applied Computational Intelligence and Soft Computing, Vol. 2020, Article ID 9834218, 2020.
- [13] Nhon V. Do, Hien D. Nguyen, Thanh T. Mai, *A Method of Ontology Integration for Designing Intelligent Problem Solvers*, Applied Science (Appl. Sci.) 2019, 9(18), 3793.
- [14] Nhon V. Do, Hien D. Nguyen, Ali Selamat, *Knowledge-Based model of Expert Systems using Rela-model*, International Journal of Software Engineering and Knowledge Engineering (IJSEKE), 28(8), pp. 1047 - 1090 (2018). SCIE
- [15] Hien D. Nguyen, Nhon V. Do, Vuong T. Pham, Katsumi Inoue, *Solving problems on a knowledge model of operators and Application*, International Journal of Digital Enterprise Technology (IJDET), Vol. 1, Nos. 1/2, pp.37–59 (2018).
- [16] Nhon V. Do, Hien D. Nguyen and Thanh T. Mai, “Reasoning Method on Knowledge about Functions and Operators”, International Journal of Advanced Computer Science and Applications (IJACSA), 6(6), pp. 156 – 168 (2015), DOI: 10.14569/IJACSA.2015.060622 . ESCI, Scopus.

Dosmetic Journals

- [1] Hien D. Nguyen, Nhon V. Do, Vuong T. Pham, *Design an intelligent problem solver in linear algebra based on knowledge base included collaborative knowledge domain*, Journal of Science, Can Tho University, ISSN: 1859-2333, Special Issue, pp. 10 - 18 (2017) (Vietnamese)
- [2] Hien D. Nguyen, Nhon V. Do, *Model of knowledge about Operators and Application to Design Intelligent Problem Solver*, Journal of Science and Technology, Vietnam Academy of Science and Technology, ISSN: 0866-708X, Vol. 52, No. 4D, pp. 60-76 (2014) (Vietnamese)

- [3] Hien D. Nguyen, Vuong T. Pham, *Relational Network of Geometric Objects and Apply to Draw the Figure of Problem automatically*, Journal of Science, Can Tho University, ISSN: 1859-2333, Special Issue, pp. 198-204 (2013)

Conferences

- [1] Hien D. Nguyen, Linh Nguyen, Nha P. Tran, Van-Thanh Nguyen-Le, Sang Vu, *Design an Intelligent Problem Solver in Mathematics based on Integrated-Knowledge Model*, Proceedings of 13th IEEE International Conference on Knowledge and Systems Engineering (KSE 2021), Bangkok, Thailand, Nov. 2021
- [2] Hien D. Nguyen, Chiaki Sakama, *Feature Learning by Least Generalization*, Proceedings of 30th International Conference on Inductive Logic Programming (ILP 2021), co-located with The first International Joint Conference on Learning & Reasoning (IJCLR 2021), Oct. 2021, Athens, Greece.
- [3] Hien D. Nguyen, Thanh Le, Khiem Tran, Son T. Luu, Suong N. Hoang, Hieu T. Phan, *Multi-level Sentiment Analysis of Product Reviews based on Grammar Rules of Language*, Proceedings of 20th International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET 2021), Cancun, Mexico, Frontiers in Artificial Intelligence and Applications, vol. 337, pp. 444 – 456, Sept. 2021.
- [4] Tung T. Phan, Vinh Q. Pham, Hien D. Nguyen, Anh T. Huynh, Dung A. Tran, Vuong T. Pham, *An Ontology-based Resume Searching System for Job Applicants in Information Technology*, Proceedings of 34th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (IEA/AIE 2021), Kuala Lumpur, Malaysia, July 2021. LNAI 12798, pp. 261 – 273, Chapter 23, Springer.
- [5] Anh T. Huynh, Ba-Tung Nguyen, Hoai-Thu Nguyen, Sang Vu, Hien D. Nguyen, *A method of Deep Reinforcement Learning for Simulated Autonomous Vehicle Control*, Proceedings of 16th International Conference on Evaluation of Novel Approaches to Software Engineering (ENASE 2021), pp. 372 – 379, Online streaming, April 2021.
- [6] Hien D. Nguyen, Kha V. Nguyen, Suong N. Hoang, Tai Huynh, *Design a management system for the influencer marketing campaign on social network*, Proceedings of 9th International Conference on Computational Data and Social Networks (CSoNet 2020), Dallas, USA, Dec. 2020. LNCS 12575, pp. 139 - 151, Chapter 12, Springer.
- [7] Xuan-Thien Pham, Tuan-Vi Tran, Van-Thanh Nguyen-Le, Vuong T. Pham, Hien D. Nguyen, *Build a search engine for the knowledge of the course about Introduction to Programming based on ontology Rela-model*, Proceedings of 2020 12th IEEE International Conference on Knowledge and Systems Engineering (KSE 2020), pp. 207 - 212, Can Tho, Vietnam, Nov. 2020. **Best Student Paper Award.**
- [8] Nhon V. Do, Hien D. Nguyen, Long N. Hoang, *Some Techniques for Intelligent Searching on Ontology-based Knowledge domain in E-learning*, Proceedings of 12th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management (IC3K 2020), Vol. 2: KEOD, pp. 313 - 320, Online streaming, Nov. 2020.
- [9] Hien D. Nguyen, Tai Huynh, Son T. Luu, Suong N. Hoang, Vuong T. Pham, Ivan Zelinka, *Measure of the content creation score on social network using sentiment score and passion point*, Proceedings of 19th International

- Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET 2020), Kitakyushu, Japan, Frontiers in Artificial Intelligence and Applications, vol. 327, pp. 425 - 434, Sept. 2020.
- [10] Hien D. Nguyen, Tai Huynh, Suong N. Hoang, Vuong T. Pham, Ivan Zelinka, “*Language-oriented Sentiment Analysis based on the grammar structure and improved Self-attention network*”, Proceedings of 15th International Conference on Evaluation of Novel Approaches to Software Engineering (ENASE 2020), pp. 339-346, Prague, Czech Public, May 2020.
- [11] Trong T. Le, Son T. Luu, Hien D. Nguyen, Nhon V. Do, “*Knowledge representation method for designing an Intelligent Tutoring System in Learning of courses about Algorithms*”, Proceedings of 2019 25th Asia-Pacific Conference on Communications (APCC 2019), pp. 310-315, Ho Chi Minh, Vietnam, Nov. 2019.
- [12] Hien D. Nguyen, Vuong T. Pham, Dung A. Tran, Trung T. Le, “*Intelligent tutoring chatbot for solving mathematical problems in High-school*”, Proceedings of 2019 11th IEEE International Conference on Knowledge and Systems Engineering (KSE 2019), pp.145-150, Da Nang, Vietnam, Oct. 2019.
- [13] Hien D. Nguyen, Nhon V. Do, Thanh T. Mai, Vuong T. Pham, “*A method for designing the Intelligent system in learning of Algorithms*”, Proceedings of 18th International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET 2019), Kuching, Malaysia, Frontiers in Artificial Intelligence and Applications, vol. 318, pp. 658 - 671, Sept. 2019.
- [14] Hien D. Nguyen, Chiaki Sakama, “*A New Algorithm for Computing Least Generalization of a Set of Atoms*”, Proceedings of 29th International Conference on Inductive Logic Programming (ILP 2019), Plovdiv, Bulgaria, Sept. 2019, LNCS 11770, pp. 81-97, Chapter 8, Springer.
- [15] Hien D. Nguyen, Nhon V. Do, Thanh T. Mai, Vuong T. Pham, “*A method for designing the Intelligent system in learning of Algorithms*”, Proceedings of 18th International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET 2019), Kuching, Malaysia, Sept. 2019.
- [16] Huan Pham Do, Nhon V. Do, Hien D. Nguyen, “*A Consulting System for Estimating Costs of an Information Technology Hardware Project based on Law of Public Investment*”, Proceedings of 7th IEEE International Conference on System Science and Engineering (ICSSE 2019), pp. 291 – 296, Quang Binh, Vietnam, July 2019.
- [17] Tai Huynh, Ivan Zelinka, Xuan Hau Pham, Hien D. Nguyen, “*Some measures to detect the influencer on social network based on Information Propagation*”, Proceedings of 9th International Conference on Web Intelligence, Mining and Semantics (WIMS 2019), Seoul, Korea, June 2019, ACM. DOI: [10.1145/3326467.3326475](https://doi.org/10.1145/3326467.3326475)
- [18] Hien D. Nguyen, Son T. Luu, Nhon V. Do, “*A method for Representation the Knowledge of Functions and Operators and Application*”, Proceedings of 3rd International Conference on Machine Learning and Soft Computing (ICMLSC 2019), pp. 148-153, Da Lat, Vietnam, Jan. 2019, ACM.
- [19] Thanh T. Mai, Hien D. Nguyen, Trung T. Le, Vuong T. Pham, “*An Intelligent Support System for the Knowledge evaluation in high-school mathematics by Multiple choices testing*”, The 5th NAFOSTED Conference on Information and Computer Science (NICS 2018), pp. 284-289, Ho Chi Minh city, Vietnam, Nov. 2018.

- [20] Hien D. Nguyen, Chiaki Sakama, Taisuke Sato, Katsumi Inoue, “*Computing Logic Programming Semantics in Linear Algebra*”, Proceeding of 12th Multi-disciplinary International Conference on Artificial Intelligence (MIWAI 2018), Ha Noi, Vietnam, Nov. 2018, LNAI 11248, pp. 32-48, Springer.
- [21] Hien D. Nguyen, Nhon V. Do, Nha P. Tran, Xuan Hau Pham, “*Criteria of a Knowledge model for an Intelligent Problems Solver in Education*”, Proceeding of 2018 IEEE International Conference on Knowledge and Systems Engineering (KSE 2018), pp. 288-293, Ho Chi Minh city, Vietnam, Nov. 2018.
- [22] Hien D. Nguyen, Nhon V. Do, Vuong T. Pham, *Rela-Ops model: A method for Knowledge Representation and Application*, Proceeding of 17th International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET 2018), Granada, Spain, Frontiers in Artificial Intelligence and Applications, vol. 303, pp. 825 - 838, Sept. 2018.
- [23] Nhon V. Do, Hien D. Nguyen, Thanh T. Mai, *Intelligent Educational Software in Discrete Mathematics and Graph Theory*, Proceeding of 17th International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET 2018), Granada, Spain, Frontiers in Artificial Intelligence and Applications, vol. 303, pp. 925 - 938, Sept. 2018.
- [24] Chiaki Sakama, Hien D. Nguyen, Taisuke Sato, Katsumi Inoue, *Partial Evaluation of Logic Programs in Vector Space*, 11th Workshop on Answer Set Programming and Other Computing Paradigms (ASPOCP 2018), co-located with 34th International Conference on Logic Programming (ICLP 2018), Oxford, UK, July 2018.
- [25] Hien D. Nguyen, Nhon V. Do, *Intelligent Problems Solver in Education for Discrete Mathematics*, Proceeding of 16th International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET_17), Kitakyushu, Japan, Frontiers in Artificial Intelligence and Applications, vol. 297, pp. 21-34, Sept. 2017
- [26] Binh T. Nguyen, Minh H. Trinh, Tan V. Phan, Hien D. Nguyen, *An Efficient Real-Time Emotion Detection Using Camera and Facial Landmarks*, Proceeding of The Seventh International Conference on Information Science and Technology (IEEE ICIST 2017), pp. 251 – 255, Da Nang, Vietnam, April 2017, DOI: 10.1109/ICIST.2017.7926765, ISBN: 978-1-5090-5402-2
- [27] Hien D. Nguyen, Diem Nguyen, Vuong T. Pham, “*Design and Intelligent Problems Solver about Solid Geometry based on Knowledge model about Relation*”, Proceeding of 2016 IEEE International Conferene on Knowledge and Systems Engineering (KSE 2016), pp. 150-155, Ha Noi, Vietnam, October 2016, DOI: 10.1109/KSE.2016.7758045, ISBN: 978-1-4673-8929-7
- [28] Hien D. Nguyen, Vuong T. Pham, Trung T. Le, Dat H. Tran, “*A Mathematical Approach for Representation Knowledge about Relations and Its Application*”, Proceeding of 2015 IEEE International Conference on Knowledge and Systems Engineering (KSE 2015), pp. 324-327, Ho Chi Minh, Vietnam, October 2015.
- [29] Van Nhon Do, Hien D. Nguyen, *Reducing model of COKB about Operators Knowledge and Solving problems about Operators*, D. Camacho et al. (eds.), *New Trends in Computational Collective Intelligence*, pp. 39-49, Studies in Computational Intelligence 572, Springer (2015)

- [30] Nhon V. Do, Hien D. Nguyen, Thanh T. Mai, *Designing an Intelligent Problems Solving System based on Knowledge about Sample Problems*, Proceeding of 5th Asian conference on Intelligent Information and Database Systems (ACIIDS 2013), Kuala Lumpur, Malaysia, March 2013, LNAI 7802, pp. 465-475, Springer.
- [31] Nhon V. Do, Hien D. Nguyen, “A knowledge model about Relations and Application”, In Proceeding of 4th International Conference on Data Mining and Intelligent Information Technology Applications (ICMIA 2012), ISBN: 978-89-94364-19-3, IEEE Catalog Number: CFP1213H-PRT, pp. 701-704, Taiwan, October 2012.
- [32] Nhon Do, Hien Nguyen, *A Reasoning method on Knowledge Base of Computational Objects and Designing a System for automatically solving plane geometry problems*, In Proceeding of World Congress on Engineering and Computer Science 2011, (WCECS 2011), ISBN: 978-988-18210-9-6, pp. 294-299, San Francisco, USA, October 2011.
- [33] Nhon Do, Hien Nguyen, *A reasoning method on Computation Network and Its applications*, 2011 International MultiConference of Engineers and Computer Scientists, IMECS 2011, ISBN: 978-988-18210-3-4, pp. 137-141, Hongkong, March 2011.
- [34] Nhon V. Do, Hien D. Nguyen, *Deductive Method with Sample Problems on Computational Object Knowledge Base and Construct to Intelligent Educational Softwares*, ICAIE 2010, ISBN: 978-1-4244-6934-5, IEEE Catalog Number: CFP1077J-PRT, pp. 805-810, HangZhou, China, October 2010.

AWARDS

1. Best Student Paper Award at KSE 2020.
2. Best Demo Clip Award at AI-Socha 2020 (Vietnam).
3. Incentive prize: 2015 Binh Duong Technological Creations Awards.
4. Incentive prize: 2016 Vietnam Fund for Scientific and Technological Creations (VIFOTEC) Award.