Huy Quang Duong

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Education

Ph.D. Norwegian University of Science and Technology	2021 (expected)
M.A. Computer Science, Hunan University	2016
B.S. Computer Science, Hanoi University of Technology	2004

Employment

Research Fellow, PhD, NTNU, Norway — 2017 – Present

– Propose techniques and efficient algorithms for detecting events in various type of data.

IT specialist, Military Bank, Vietnam — 2013 – 2014

– Develop enterprise applications and business processing management (BPM) using software-AG product, service monitoring tool, and support for security patch.

IT specialist, VTCMobile, Vietnam — 2011 – 2013

– Build Back-end framework and services for applications and games in mobile platform.

Researcher, CDIT, Vietnam — 2006 – 2011

– Propose solutions and develop applications for Vietnam Post.

Developer, Vinacomm, Vietnam — 2004 – 2006

– Build content management system for news and financial (stock) service system.

Honors and Awards

1. The national encouragement prize in Math for high school student — 1999
2. Full CSC Scholarship for Master degree — 2014 – 2016
3. Selected for Best Papers of the Industrial Conference on Data Mining Conference — 2016
4. PhD Fellowship — 2017–2021

Research Interest

Data Mining, Algorithm Analysis, Optimization.

Machine Learning and Artificial Intelligent

Event Detection in Tensor and Graph Data.

Programming Languages

Java/JavaScript

– Implemented the algorithms in following papers: MUST, CCPD, IncCHUI, CLS-Miner, ULB-Miner, kHMC, KOSHU algorithms

C/C++/C#

– Used when working in industry and implemented the algorithm in top-rank-k paper.

Matlab/Python/CSS/NoSQL

– Matlab is used to implement Sketch paper. Python is used in preprocessing data in MUST and in teaching of TDT4310.

Publications

Journal and proceedings

1. Dam, T.-L., Ramampiaro, H., Nørvåg, K. & **Duong, Quang-Huy**. Towards efficiently mining closed high utility itemsets from incremental databases. *Knowledge-Based Systems* **165,** 13–29 (2019).

2. **Duong, Quang-Huy**, Ramampiaro, H. & Nørvåg, K. *A Beter Density Guarantee of Dense Subtensor and Dense Subgraph Detection* in *Under Submission* (2019).

3. **Duong, Quang-Huy**, Ramampiaro, H. & Nørvåg, K. *Multiple Dense Subtensor Estimation with High Density Guarantee* in *Under Submission* (2019).

4. **Duong, Quang-Huy**, Ramampiaro, H. & Nørvåg, K. *Sketching Streaming Histogram Elements using Multiple Weighted Factors* in *Under Submission* (2019).

5. Fournier-Viger, P. *et al.* Discovering Periodic Itemsets Using Novel Periodicity Measures. *Advances in Electrical and Electronic Engineering* **17,** 33–44 (2019).

6. **Duong, Quang-Huy**, Fournier-Viger, P., Ramampiaro, H., Nørvåg, K. & Dam, T.-L. Efficient high utility itemset mining using buffered utility-lists. *Applied Intelligence* **48,** 1859–1877 (2018).

7. **Duong, Quang-Huy**, Ramampiaro, H. & Nørvåg, K. Applying temporal dependence to detect changes in streaming data. *Applied Intelligence* **48,** 4805–4823 (2018).

8. **Duong, Quang-Huy**, Ramampiaro, H., Nørvåg, K., Fournier-Viger, P. & Dam, T.-L. High utility drift detection in quantitative data streams. *Knowledge-Based Systems* **157,** 34–51 (2018).

9. Dam, T.-L., Li, K., Fournier-Viger, P. & **Duong, Quang-Huy**. An efficient algorithm for mining top-k on-shelf high utility itemsets. *Knowledge and Information Systems* **52,** 621–655 (2017).

10. Dam, T.-L., Li, K., Fournier-Viger, P. & **Duong, Quang-Huy**. CLS-Miner: efficient and effective closed high-utility itemset mining. *Frontiers of Computer Science*, 1–25 (2017).

11. Fournier-Viger, P. *et al. PFPM: discovering periodic frequent patterns with novel periodicity measures* in *Proceedings of the 2nd Czech-China Scientific Conference 2016* (2017).

12. Dam, T.-L., Li, K., Fournier-Viger, P. & **Duong, Quang-Huy**. An efficient algorithm for mining top-rank-k frequent patterns. *Applied Intelligence* **45,** 96–111 (2016).

13. **Duong, Quang-Huy**, Liao, B., Fournier-Viger, P. & Dam, T.-L. An efficient algorithm for mining the top-k high utility itemsets, using novel threshold raising and pruning strategies. *Knowledge-Based Systems* **104,** 106–122 (2016).

14. Fournier-Viger, P., Lin, J. C.-W., **Duong, Quang-Huy** & Dam, T.-L. *FHM + : Faster High-Utility Itemset Mining Using Length Upper-Bound Reduction* in *International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems* (2016), 115–127.

15. Fournier-Viger, P., Lin, J. C.-W., **Duong, Quang-Huy** & Dam, T.-L. *PHM: mining periodic high-utility itemsets* in *Industrial conference on data mining* (2016), 64–79.

Services

Teaching Assistant

Intelligent Text Analytics and Language Understanding (TDT4310), 2018S, 2019S.

Reviewer

Knowledge-Based Systems

Artificial Intelligence Review

Information Sciences

International Conference on Data Mining (DMIN)

Coursework

DT8116 – Web Mining   2017S

DT8801 – Advance Database Systems Spring   2017S

Languages

Vietnamese, English, Chinese (basic), Norwegian (basic)