

# Huy Quang Duong

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Nationality: Vietnamese (Permanent residence in Norway)

Source Code: <https://bitbucket.org/duonghuy/>

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Github: <https://thi3n10ng.github.io/>

## Summary

I have 10-year experience in working in industry and nearly 4.5 years doing research in academia. I have background in Computer Science, and I am good at Mathematics and at Programming.

## Education

Ph.D. in Computer Science, NTNU, Norway

Mar 2017 - 2020

M.Sc. in Computer Science, Hunan University, China

Sep 2014 - Nov 2016

B.S. in Computer Science, Hanoi University of Technology, Vietnam

Sep 1999 - Jun 2004

## Work Experience

**2017 – Present**

**Research Fellow, Department of Computer Science, NTNU, Norway.**

– I am a member of Data and Artificial Intelligence group, and working in the MUSED (MULTI-Source Event Detection) project at NTNU, Norway. My work is to develop solutions for working with big data streams in a wide-range of applications, e.g. classification, change detection, fraud detection, network attack detection. I have developed novel foundation and techniques for event detection. The short outcome of my work is summarized as follows:

- P1.** Optimize the memory usage in mining high profit product groups from customer database. Our method is *6 times lesser memory consumption*, and *10 times faster* than the existing methods.
- P2.** Propose an evolving model to quickly adapt with the changes in user activity behaviors. My method is more accurate (4%) in classification task, the error rate is *12 times better* than the existing methods (ACM CIKM, Rank A, a top and well known conference in information retrieval, data science and knowledge management).
- P3.** Develop theoretical foundation for multiple dense subtensor detection with guarantee on the density in tensor data. Propose a new technique to detect *multiple dense subtensors* with a higher density guarantee. The method is *two million times more accurate* on density and *6.9 times faster* (IEEE ICDE, Rank A\*, premier conference in Data Engineering and Data-intensive systems).

– Techniques (Core): C++, Java, MatLab, Python.

**2013 – 2014**

**Senior Software Engineer, MB Bank, Vietnam.**

– Developed enterprise applications (HR) and business processing management (BPM) (appraisal process, loan process) using software-AG product, Process Maker, service monitoring tool. Advised and fixed vulnerabilities and flaws of applications and systems.

– Platform & Techniques: Web Applications & Windows Services. Software-AG, SQL-Server, .NET, C#.

**2011 – 2013**

**Solution Architect, Team Leader, VTCMobile, Vietnam.**

– Built Back-End framework, designed and constructed MongoDB system (servers, slaves, log, shading & replicaset) services for applications and games on mobile platform. Analyzed, designed databases and developed backends, restful services using C#, .NET, SQL-Server, NoSQL-MongoDB, OAuth.

**2006 – 2011**

**Researcher, CDIT, Vietnam.**

- Designed solutions and developed applications for Vietnam Post, used in all post offices in all cities and provinces: Telecommunications service management, money transfer service management, parcel and package management, auto-update application.
- Platform & Techniques: Window & Web Based Applications, .NET, C#, SQL-Server, Oracle.

*At the same time, I held the position as outsource software engineer for Vingroup, Vietnam.*

- Built HR system, Booking online, Member Management System, Real Estate Management.
- Platform: Window & Web Based Applications, C#, .NET, DevExpress, SQL-Server.

**2004 – 2006**

**Software Engineer, Vinacomm, Vietnam (VCCorp).**

- Built content management system, news and financial (stock) service applications. Built indicator, candle, pattern recognition and rebuilt system with new technology, C#, .NET, MemCache, NoSQL-Redis.

## Honors and Awards

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|---|-----------|
| 1. <b>National award in Mathematics</b> , competition for every high school student       | 1999      |
| 2. <b>Prospective Employee of the Year Award</b> , MBBank (~6.9K employees)               | 2014      |
| 3. <b>Selected for Best Papers</b> of the Industrial Conference on Data Mining Conference | 2016      |
| 4. PhD Fellowship, NTNU, Norway   | 2017–2021 |

## Skills

- **Programming:** C#, ASP.NET, Java, C++, Matlab, Python, PHP (Core), Javascript (jQuery), RDBMS (SQL Server, Oracle, MySQL), NoSQL (MongoDB, Redis), Git.
- **Data Science:** Data Mining (MOA), Machine Learning (scikit-learn, Keras, PyTorch, TensorFlow), SQL (SQL Server, Oracle, MySQL), Pandas, Numpy, Scipy, Matplotlib.
- **Research:** Event Detection, Dense SubTensor Detection, Dense Subgraph Detection, Network Analysis, Pattern Mining, Sketching, Optimization, Data Mining and Knowledge Discovery, Statistical Analysis.
- **Tools:** Visual Studio, Eclipse, RStudio, Jira, Mantis Bug Tracker, Mind Manager, Ext.Net, DevExpress, PyCharm, CodeSmith Generator.

## Publications

- 14 peer-reviewed scientific articles, 205 citations, h-index 8.
- For more details, please see my Google Scholar: <https://scholar.google.com/>

## Languages

Vietnamese (native), English (fluent), Norwegian (Level 2 at NTNU ~ B1/B2 CEFR), Chinese (basic).

## References

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