Huy Quang Duong

Nationality: Vietnamese (Permanent residence in Norway)
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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

1. **National award in Mathematics**, competition for every high school student   1999

2. **Prospective Employee of the Year** Award, MBBank ($\sim$6.9K employees)   2014

3. **Selected for Best Papers** 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 $\sim$ B1/B2 CEFR), Chinese (basic).

References

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