Huy Quang Duong

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Summary

I have 9-year experience in working in industry and 7 years doing research in academia. I am good in Mathematics and in Programming. I am enthusiasm, quick leaner, hard working, and responsible.

Education

Ph.D. in Computer Science, NTNU, Norway — Mar 2017 - Jun 2020 (expected)

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

Research Fellow, NTNU, Norway **2017 – Present**

– I am working in the MUSED (MUlti-Source Event Detection) project at NTNU. The project handles big data streams in a wide-range of applications, e.g. classification, change detection, fraud detection, network attack, and genetics applications. I developed novel techniques and efficient algorithms for detecting events in various type of data. The outcome of my work is summarized as follows:

1. Propose a novel structure to 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 state-of-the-art methods, and implemented in Java.
2. Utilize the temporal dependence of data in a new statistical hypotheses for change detection. We propose auto-tuning learning models by projecting on a ℓ_1 space. Our method ranks the first among the compared methods, is implemented in Java, capable of being integrated into MOA Framework.
3. Analyze the user activity behavior in social networks. We propose an evolving model to quickly adapt with the changes in user behaviors, which is more accurate in classification, and the error rate is 12 times better than the existing methods. The method is implemented in MatLab.
4. Develop theoretical proofs for multiple dense subtensor detection with guarantee on the density in tensor data. We propose a new technique to detect multiple dense subtensors with a higher density guarantee. Our method is more than two millions accurate on density and 6.9 times faster. The method is implemented in Java.
5. We propose novel proofs to provide a better guarantee for the dense subgraph and subtensor detection problem which have been utilized in tremendous applications such as fraud detection, event detection, and genetics applications. Our method can guarantee the density 70% more than the state-of-the-art method. The method is implemented in Java.

Senior Software Engineer, MB Bank, Vietnam. **2013 – 2014**

– Developed enterprise applications (HR) and business processing management (BPM) (appraisal process, loan process) using software-AG product, service monitoring tool. Advised and fixed vulnerabilities and flaws of applications and systems.
– Platform & Techniques: Web-Based Application & Services. Software-AG, SQL-Server, PHP, C#.

Solution Architect, Team Leader, VTCMobile, Vietnam. **2011 – 2013**

– Built Back-End framework, services for applications and games on mobile platform. Analyzed, designed databases and developed backends, restful services using C#, SQL-Server, NoSQL-MongoDB, OAuth.

Researcher, CDIT, Vietnam. **2006 – 2011**

– Proposed solutions and developed applications for Vietnam Post.
– Platform & Techniques: Window & Web Based Applications. VB.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#, DevExpress, SQL-Server.

Developer, Vinacomm, Vietnam (VCCorp). **2004 – 2006**

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

Honors and Awards

1. National award in Mathematics for high school student 1999
2. Full Scholarship from China Scholarship Council for Master degree 2014 – 2016
3. Selected for Best Papers of the Industrial Conference on Data Mining Conference 2016
4. PhD Fellowship, NTNU, Norway 2017–2021
5. SIGIR Student Travel Grant 2019

Skills

– **Programming**: Python, C++, C#, Java, Matlab, PHP, Javascript, 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**: Even Detection, Dense SubTensor Detection, Dense Subgraph Detection, Network Analysis, Pattern Mining, Sketching, Optimization, Data Mining and Knowledge Discovery, Statistical Analysis.

Publications

– 13 peer-reviewed scientific articles.
– For more details, please see my Google Scholar: `https://scholar.google.com/`

Languages

Vietnamese (native), English (fluent), Norwegian (basic), Chinese (basic).

References

Available on request.