

Huy Quang Duong

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Experienced Software Engineer | Ph.D. in Computer Science (NTNU)

Results-driven software engineer with **21+ years** of experience (**16+ years** in industry, **5+ years** in academia) and skilled in building business-critical and scientific solutions using modern technologies and advanced algorithms. Proficient in C#, Java, React, Python, JavaScript, and advanced with SQL Server, Oracle, MongoDB, OAuth2, and Messaging Queues. Recognized for impactful scientific contributions with **16 peer-reviewed publications** and over **696 citations**.

Education

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| 1. Ph.D. in Computer Science | NTNU, Trondheim, Norway | 2017 - 2020 |
| Thesis: "Event Detection in Changing and Evolving Environments" - MUSED project (Multi-Source Event Detection) | | |
| 2. M.Sc. in Computer Science | Hunan University, China | 2014 - 2016 |
| 3. B.S. in Computer Science | Hanoi University of Technology, Vietnam | 1999 - 2004 |

Side project

1. **Real Estate System with AI - Founder** <https://www.looking.no>
 - Founder of <https://www.looking.no>, an **AI-powered** real estate analytics platform that analyzes property listings and images for sentiment, floor plans, and pricing using state-of-the-art AI models and a modern web technology stack.
 - Use **React Frontend, Python Backend, and Postgres Database + Websocket + Image & Text analysis and AI, Hugging Face, Alloma, Mistral, Matplotlib, Github, Railway CI/CD, Docker.**

Work Experience

1. **Elhub AS (c/o Statnett SF), Oslo, Norway - Senior Advisor** **Jun 2022 - Present**
 - Actor registration system in energy sector in Nordic countries (Norway & Sweden), enabling communication and message verification. Redesigned the architecture to significantly improve system quality. Fixed security flaws. Led performance optimization and security hardening, improved system performance by **100x**. Implemented multi-factor authentication. Set up Grafana dashboards and metrics. Migrated systems from On-prem to OCI cloud, etc.
 - Use **SQL-Server, C#, Grafana, NServiceBus, Kotlin (Ktor), Microservices, Ansible, Github, Teamcity, OCI cloud, CI/CD.**
2. **Stingray Marine Solutions AS, Oslo, Norway - Senior Software Developer** **Dec 2020 - May 2022**
 - Architected and developed the following systems: Navigator Backend, Command Gateway, Simulator, Favorite Scheduler, Frontend for routing commands between nodes and users and for controlling power.
 - Used tech stacks: **RestApi, NetCore, C#, MongoDB, OAuth2, Message Queue, React+Redux+Typescript, Razor, SignalR, Python, Microservices, Raspberry pi, Gitlab, CI/CD, AWS cloud, Docker.**
3. **Department of Computer Science, NTNU, Trondheim, Norway - Research Fellow** **Mar 2017 - Nov 2020**

- Developed solutions and theoretical foundations for event detection (changes, anomalies, fraud and network attack), novel algorithm for multiple dense subtensor and subgraph detection, improved accuracy on density **two million** times and **6.9 times** faster. Ph.D. research in data mining and machine learning was recognized for its high quality, ranked in the **top quartile**, and compares favorably with PhD theses from **Harvard, USA**. For more details, please check Google Scholar page. Use **Java, Matlab, Python, Tensorflow, Pytorch, Numpy, Pandas, Matplotlib**.

4. **Military Bank, Hanoi, Vietnam** - *Senior Software Engineer* **2013 - 2014**

- Led 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. Used web & windows services, **Software-AG, SQL-Server, .NET, C#**.

5. **VTCMobile, Hanoi, Vietnam** - *Solution Architect, Team Leader* **2011 - 2013**

- Architected and built Back-End framework, designed and constructed MongoDB system (servers, slaves, log, sharding & replicaset) services for applications and games on mobile platform. Analyzed, designed databases and developed back-ends, restful services using **C#, .NET, SQL-Server, NoSQL-MongoDB, OAuth2**.

6. **CDIT, Center for Development of Information Technology, Hanoi, Vietnam** - *Researcher* **2006 - 2011**

- 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. Used **.NET, C#, SQL-Server, Oracle**.

At the same time, also worked as an outsourced software engineer for Vingroup, Vietnam (2006-2010). Built HR system, Booking online, Member Management System, Real Estate Management.

7. **Vinacomm (VCCorp), Hanoi, Vietnam** - *Software Engineer* **2004 - 2006**

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

Honors and Awards

1. Security Rewards	<i>PII report at bugs.chromium.org (Google) ...</i>	2023
2. SIGIR Conference Travel Grant	<i>For paper presentation at leading CIKM conference</i>	2019
3. Selected for Best Papers	<i>The Industrial Conference on Data Mining Conference</i>	2016
4. Potential Employee of the Year Award	<i>Military Bank (MBBank, ~6.9K employees)</i>	2014
5. National award in Mathematics	<i>For senior high school students</i>	1999

Skills

1. **Programming:** C#, .NetCore, Java, Kotlin, C++, Matlab, Python, JavaScript, React + Redux, TypeScript, SQL/NoSQL.
2. **Data Science:** Data Mining (MOA), Machine Learning (Scikit-learn, Keras, PyTorch, TensorFlow), SQL DB (SQL Server, Oracle, MySQL), NoSQL DB (MongoDB, Redis), Pandas, Numpy, Scipy, Matplotlib, Git.
3. **Tools:** VS Studio(+Code), Eclipse, Bug Tracker, Docker, Mind Manager, Ext.Net, DevExpress, PyCharm, Code-Smith, Teamcity, Grafana.

Languages

1. Vietnamese (Native), English (Fluent), Norwegian (Level 2 at NTNU ~ B1/B2 CEFR), Chinese (Basic).