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, Kotlin, React, Python, JavaScript, and advanced with SQL Server, Oracle, MongoDB, PostGre, OAuth2, and Messaging Queues. Recognized for impactful scientific contributions with **16 peer-reviewed publications** and over **725 citations**.

Education

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**

   - 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.
   - 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**

   - Modernized actor registration systems for Norway & Sweden's energy sector.
   - Led security hardening (MFA, OAuth2), cloud migration (OCI), and performance tuning (**100x improvement**).
   - Delivered CI/CD pipelines, monitoring dashboards, and system architecture redesign.
   - Use **Kotlin (Ktor), React, PostGre, Microservices, OAuth2, GitOps (Helm, ArgoCD), SQL-Server, C#, Grafana, NServiceBus, Ansible, Github, Teamcity, OCI cloud.**

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** - *PhD Research Fellow* — **Mar 2017 - Nov 2020**

   - Developed theoretical foundations and practical solutions for event detection (change, anomaly, fraud, network attacks).

- Created algorithms for multiple dense subtensor and subgraph detection, achieving **2M× higher density accuracy** and **6.9× faster performance**.
- Ph.D. in data mining and machine learning ranked in the **top quartile**, comparable to theses from **Harvard**.
- Proficient in **Java, Matlab, Python, TensorFlow, PyTorch, NumPy, Pandas, Matplotlib**.
- Published research in top **A*** conferences. Additional publications available on `Google Scholar`.

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 Backend framework, designed and constructed MongoDB system (servers, slaves, log, sharding & replicaset) services for applications and games on mobile platform. Analyzed, designed databases and developed backend, 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, Dist-Cache, NoSQL-Redis**.

Honors and Awards

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

Languages

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