

## Do Quoc Le

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GIT REPOSITORY	<a href="https://github.com/doflink">https://github.com/doflink</a> Demo: <a href="https://tinyurl.com/ybzip6tvn">https://tinyurl.com/ybzip6tvn</a>	
RESEARCH INTERESTS	My research interests include big data analytics systems, approximate computing, and distributed systems.	
EDUCATION	<b>Technical University of Dresden (TU Dresden)</b> , Dresden, Germany PhD student, System Engineering Group, Computer Science (Apr 2013 - Now) Advisors: Prof. Dr. Christof Fetzer and Prof. Dr. Pramod Bhatotia  <b>Pohang University of Science and Technology (POSTECH)</b> , Pohang, Korea M.S., Computer Science and Engineering, (Aug 2010 - June 2012) Advisors: Prof. Dr. James Won-ki Hong  <b>Hanoi University of Science and Technology (HUST)</b> , Hanoi, Vietnam B.A., Computer Science, (Aug 2003 - June 2008)	
HONORS AND AWARDS	Google student travel grants, ACM WWW, 2016. Student travel grants, IEEE CLOUD, 2015. Best poster award, 3rd International Symposium on IT convergence Engineering, POSTECH, Korea, 2011. ITCE, WCU (World Class University) Program scholarship for graduate student, POSTECH, Korea, 2010-2012.	
WORKING EXPERIENCE	<b>Nokia Bell Labs</b> , Stuttgart, Germany (Sept 2016 - Dec 2016) <i>Internship</i> <i>Responsibilities:</i> Design and implement a stream analytics system using approximate computing. <i>Supervisor:</i> Dr. Ruichuan Chen and Dr. Volker Hilt  <b>German Research Center for Artificial Intelligence</b> , Berlin, Germany (Jan 2016 - June 2016) <i>Research Engineer</i> <i>Responsibilities:</i> Design and implement Cache/Persist operators for Apache Flink's datasets. <i>Supervisor:</i> Prof. Volker Markl (TU Berlin)  <b>R&amp;D Center DASAN Networks company</b> , Seoul, Korea (June 2012 - Jan 2013) <i>Software Developer</i> <i>Responsibilities:</i> Design and implement a deep packet inspection engine. <i>Supervisor:</i> Dr. SeungDong Lee (DASAN)  <b>Hanel communication JSC</b> , Seoul, Korea (July 2008 - June 2009) <i>Software Developer</i> <i>Responsibilities:</i> Design and implement a project portal for task management.	

PH.D.  
DISSERTATION

**Topic:** Approximate Big Data Analytics Systems  
**Supervisors:** Prof. Dr. Christof Fetzer and Prof. Dr. Pramod Bhatotia

In the context of my Ph.D. dissertation, I design and build big data analytics systems with high throughput/low latency and efficient resource utilization using approximate computing.

**Research projects:**

- STREAMAPPROX: A approximate stream analytics system using Apache Flink and Spark Streaming [\[Middleware'17\]](#)
- INCAPPROX: A high-throughput stream analytics system using approximate and incremental computing [\[WWW'16\]](#)
- PRIVAPPROX: A system for privacy-preserving stream analytics over distributed datasets [\[USENIX ATC'17\]](#)
- APPROXJOIN: A approximate distributed join system [\[In progress\]](#)

PUBLICATIONS

**StreamApprox: Approximate Computing for Stream Analytics**, *Do Le Quoc*, Ruichuan Chen, Pramod Bhatotia, Christof Fetzer, Volker Hilt, and Thorsten Strufe, in the 17th International Middleware Conference (Middleware), Las Vegas, Nevada, USA, 2017.

**PrivApprox: Privacy-Preserving Stream Analytics**, *Do Le Quoc*, Martin Beck, Pramod Bhatotia, Ruichuan Chen, Christof Fetzer, and Thorsten Strufe, in the USENIX Annual Technical Conference (USENIX ATC), Santa Clara, CA, USA, 2017.

**IncApprox: A Data Analytics System for Incremental Approximate Computing** Dhanya R Krishnan , *Do Le Quoc*, Pramod Bhatotia, Christof Fetzer, and Rodrigo Rodrigue, in the 25th International World Wide Web Conference (WWW), Montreal, Canada, 2016.

**Scalable Network Traffic Analytics Using Distributed Support Vector Machines** (*Do Le Quoc*, Valerio D' Alessandro, Luigi Romano, Christof Fetzer), in the 8th IEEE International Conference on Cloud Computing (CLOUD), New York, USA, 2015.

**UniCrawl: A Practical Geographically Distributed Web Crawlers** (*Do Le Quoc*, Christof Fetzer, Pascal Felber, Étienne Rivière, Valerio Schiavoni, Pierre Sutra), in the 8th IEEE International Conference on Cloud Computing (CLOUD), New York, USA, 2015.

**DoLen: User-side multi-cloud application monitoring** (*Do Le Quoc*, Lenar Yazdanov, Christof Fetzer), in the IEEE 2nd Future Internet of Things and Cloud (FICLOUD), Barcelona, Spain, 2014.

**Scalable and Real-Time Deep Packet Inspection** (*Do Le Quoc*, André Martin, Christof Fetzer), in Workshop on Distributed Cloud Computing (DCC), Dresden, Germany, 2013.

**Tutorial: Elastic and Fault Tolerant Event Stream Processing Using StreamMine3G** (André Martin, *Do Le Quoc*), in the 2013 IEEE/ACM 6th International Conference on Utility and Cloud Computing (UCC), Dresden, Germany, 2013.

**Communication Patterns based Detection of Anomalous Network Traffic** (*Do Quoc Le*, Taeyoel Jeong, Roman H. Eduardo, James Won-Ki Hong), in the IEEE Intelligence and Security Informatics (ISI), Washington, DC, USA, June 11-14, 2012 (*Poster*).

**Traffic Dispersion Graph Based Anomaly Detection** (*Do Quoc Le*, Taeyoel Jeong, Roman H. Eduardo, James Won-Ki Hong), in the 2nd International Symposium on Information and Commu-

nication Technology (SoICT), Hanoi, Vietnam, 2011.

**Developing smart garment for monitoring vital signs** (*Do Quoc Le*, Hamid Faryabi, Yong Feng, Duc Minh Le, Prof. M. Jamal Deen), in the 3rd International Symposium on IT convergence Engineering, Pohang, Korea, 2011 (*Best Poster Award*).

#### TALKS

- FLINK FORWARD, Berlin, Germany, Sept 2017  
*StreamApprox: Approximate Computing for Stream Analytics using Apache Flink*
- USENIX ATC'17, Santa Clara, CA, USA, July 2017  
*PrivApprox: Privacy-Preserving Stream Analytics*
- IEEE CLOUD'15, New York, USA, July 2015  
*UniCrawl: A Practical Geographically Distributed Web Crawlers*
- IEEE CLOUD'15, New York, USA, July 2015  
*Scalable Network Traffic Analytics Using Distributed Support Vector Machines*
- IEEE FICLOUD'14, Barcelona, Spain, Aug 2014  
*DoLen: User-side multi-cloud application monitoring*
- IEEE UCC'13, Dresden, Germany, Dec 2013  
*Scalable and Real-Time Deep Packet Inspection*
- ACM SoICT'11, Hanoi, Vietnam, Oct 2011  
*Traffic Dispersion Graph Based Anomaly Detection*

#### PATENTS

**Traffic Dispersion Graph Based Anomaly Detection System**, (*Le Quoc Do*, Taeyeol Jeong, Jame Won-Ki Hong), P2012117-01-KR, Korea Patent, (Applicant: POSTECH) - WCU 3/2012.

#### SKILLS

**Frameworks:** Hadoop MapReduce, Apache Spark, Apache Flink, Apache Kafka, OpenStack.  
**Proficient programming languages:** Python, Scala, Java, Unix shell, C/C++.  
**Databases:** Redis, Cassandra, HBase, MySQL, SQLite.  
**Tools:** Tcpdump, Wireshark, Netem, TcpReplay, DPKT lib.

#### REFERENCES

**Prof. Dr. Christof Fetzner**

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**Prof. Dr. Pramod Bhatotia**

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