Huynh Tu Dang

CONTACT INFORMATION		
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	Google Scholar	https://scholar.google.ch/citations?user=qX33XmkAAAAJ&hl=en

RESEARCH INTERESTS

Software Defined Networking, Distributed Systems, Machine Learning

EDUCATION

Università della Svizzera italiana, Lugano, Ticino Switzerland

Ph.D in Informatics, March 2019

- Thesis: "Consensus Protocols Exploiting Network Programmability"

Polytech Nice, Sophia Antipolis, Nice, France

M.S in Informatics, September 2013

- Thesis: "Higher SLA Satisfaction in Datacenters with Continuous VM Placement Constraints"

Ho Chi Minh International University (HCMIU), Ho Chi Minh, Vietnam

B.S in Computer Science, September 2010

HONORS AND AWARDS

Full scholarship for the Ubinet Master Program, Sophia Antipolis, France, 2012

Full scholarship for the IT Master Program of International University, 2011

Silver Medal in Information Technology Graduation Batch, 2010

University scholarships for excellent study results, 2006-2010

PROFESSIONAL EXPERIENCE

Western Digital   **May 2020 - present**
951 Sandisk Drive, Milpitas, CA 95035
Technologist

Lead the study and development of new and emerging non-volatile memory technologies, Coherence protocols and Scale out for memory-centric systems.

Provide project guidance through the acquisition and analysis of electronic measurement data.

Participate in cost-reduction in each module and the entire process of the technology.

Interacte with unit process engineering team for a total solution at the current production and future technology.

Western Digital   **Apr 2019 - present**
951 Sandisk Drive, Milpitas, CA 95035
Principal Engineer

Design and Implement OmniXtend, an open networking protocol for exchanging coherence messages in a distributed network of computes, memory, and databased.

Incorporate the latest technologies in distributed systems to design and develop a fabric which

provide cache coherent interconnect for CPUs, memory, storage, accelerators, FPGAs.

Collaborate with academic teams to publish in prestigious conferences and journals.

Western Digital   **Jul 2017 - Oct 2017**
951 Sandisk Drive, Milpitas, CA 95035
  Ph.D Intern

Research on methodology to provide fault tolerance for storage class memory applying software-defined networking and fault-tolerant distributed systems.

Work along with a team and prototype a fault-tolerant memory system.

Computer Laboratory, University of Cambridge, UK   **20 Apr 2017 - 4 May 2017**
  Visiting Researcher

Interface FPGA off-chip DRAM memory with processing system.

Ho Chi Minh International University (HCMIU), Vietnam
  Instructor   **Oct 2013 - Sep 2014**

Tutor bachelor's courses and research on Software Defined Networking.

Use Mininet, a light-weight network simulator, to verify network controller's functionalities.

INRIA Nice-Sophia Antipolis, France
  M.S Internship   **Mar 2013 - Aug 2013**

Design an energy-efficient algorithm for the virtual machine placement in datacenter.

Implement and evaluate the algorithm and publish a paper at HotDep'13 conference.

PUBLICATIONS   H. Tu Dang, P. Bressana, H. Wang, K. Suh Lee, N. Zilberman, H. Weatherspoon, M. Canini, F. Pedone and R. Soulé, *IEEE/ACM Transactions on Networking 28 (4)*, May 2020.

Y. Tokusashi, H. T. Dang, F. Pedone R. Soulé, and N. Zilberman. In-Network Computing On Demand. In *Proceedings of the 2019 European Conference on Computer Systems **(Eurosys'19)***, March 2019. Acceptance rate: 22% (45 / 121)

H. T. Dang, J. Hofmann, Y. Liu, M. Radi, D. Vucinic, R. Soulé, F. Pedone. Consensus for Non-volatile Main Memory. In *Proceedings of the IEEE 26th International Conference on Network Protocols **(ICNP)***, September 2018.

H.T. Dang, H. Wang, T. Jepsen, G. Brebner, C. Kim, J. Rexford, R. Soulé, and H. Weatherspoon. Whippersnapper: A P4 Language Benchmark Suite, In *Proceedings of the 3rd ACM Sigcomm Symposium on SDN Research **(SOSR' 17)***, April 2017. Acceptance rate: 23% (18 / 77)

H. Wang, R. Soulé, H.T. Dang, K.S. Lee, V. Shrivastav, N. Foster, and H. Weatherspoon. P4FPGA: A Rapid Prototyping Framework for P4. In *Proceedings of the 3rd ACM Sigcomm Symposium on SDN Research **(SOSR' 17)***, April 2017. Acceptance rate: 23% (18 / 77)

T. Jepsen, L.P. Sousa. H.T. Dang, F. Pedone, R. Soulé, *Optimistic Aborts for Geo-distributed Transactions*, Technical report, Oct. 2016

H. Tu Dang, P. Bressana, H. Wang, K. Suh Lee, H. Weatherspoon, M. Canini, F. Pedone and R. Soulé, *Network Hardware-Accelerated Consensus*, Technical report, May 2016

H.T. Dang, M. Canini, F. Pedone, and R. Soulé. Paxos Made Switch-y. in *SIGCOMM Computer Communication Review **(SIGCOMM CCR)***, Apr. 2016

H.T. Dang, D. Sciascia, M. Canini, F. Pedone, and R. Soulé. NetPaxos: Consensus at Network Speed. In *Proceedings of the 1st ACM Sigcomm Symposium on SDN Research **(SOSR' 15)***, June 2015. Acceptance rate: 20% (27 / 137)

H.M. Tran, S.V.U. Ha, T.H. Dang, K.V. Huynh, *Fault Resolution System for Inter-Cloud Environment*, Journal of Mobile Multimedia, 10(1&2): 16-29, Rinton Press, 2014

H.T. Dang, F. Hermenier. Higher SLA Satisfaction in Datacenters with Continuous VM Placement Constraints. In *Proceedings of the 9th Workshop on Hot Topics in Dependable Systems **(HotDep' 13)***, November 2013.

H.T. Dang, H.M. Tran, P.N. Vu, and A.T. Nguyen, *Applying MapReduce Framework to Peer-to-Peer Computing Applications*, ICCCI 2012, Ho Chi Minh City, Nov. 2012. Springer LNAI 7654

PATENTS   C. Sun, P. Bressana, D. Vucinic, and Huynh T. Dang. *In-line Data Operations for Storage Systems.* US Patent 11297010. Issued Apr 2022

R. Soulé, F. Pedone, M. Canini, and Huynh T. Dang. *Storage and replication in distributed computing environments.* US Patent 10248708. Issued Apr 2019

CONFERENCE   Building Cache-coherent Scaleout Systems with OmniXtend, December 2020
PRESENTATIONS   Achieving Fault Tolerance for Storage Class Memory. Flash Memory Summit, August 2019
                Whippersnapper: A P4 Language Benchmark Suite. NetFPGA SUME Summit, April 2017
                Whippersnapper: A P4 Language Benchmark Suite. SOSR' 17, April 2017
                CAANS: Consensus As A Network Service. SIGCOMM, August 2016.
                CAANS: Consensus As A Network Service. Netronome Summer Webinar Series, July 2016
                NetPaxos: Consensus at Network Speed. SOSR' 15, July 2015

PEER REVIEW   Reviewer of The 48th IEEE/IFIP International Conference on Dependable Systems and Networks
                Reviewer of The IEEE Transactions on Network and Service Management 2018