Hung Q. Ngo

Curriculumn Vitae

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Education

1996–2001 **Ph.D. in Computer Science & Engineering**, *University of Minnesota*, Twin Cities.
Dissertation: "Issues in Interconnection Networks", Advisor: Ding-Zhu Du

1999–2001 **M.S. in Mathematics**, *University of Minnesota*, Twin Cities.
Thesis: "P-Species and the q-Mehloer Formula", Advisor: Dennis Stanton

1990–1995 **B.S. in Computer Engineering**, *Ho Chi Minh city University of Technology*, Ho Chi Minh city, Vietnam.

Employment History

2017–present **Principal Computer Scientist**, *RelationalAI Inc.*.

2015–2017 **Computer Scientist**, *LogicBlox Inc.*.

2001–2017 **Assistant→Associate→Full Professor**, *Computer Science and Engineering, SUNY Buffalo*.

Awards and Honors

2018 **Gems of PODS**, *Invited to give the "Gems of PODS" talk on Worst-Case Optimal Join Algorithms.*

2016 **ACM SIGMOD Research Highlights Award**, *(For the Functional Aggregate Queries paper)*.

2016 **Best paper award**, *PODS 2016*.

2016 **CSE Sustained Teaching Execellence Award**.

2012 **Best paper award**, *PODS 2012*.

2008 **Best paper award**, *COCOON 2008*.

2005 **Exceptional Scholar (Young Investigator) Award**, *SUNY Buffalo*.

2004–2009 **NSF CAREER Award**.

2002–2003 **Outstanding Teacher Awards**, *Fall 2002, Spring 2003, Fall 2003*.
By the Graduate Student Association of the Department of Computer Science & Engineering, SUNY Buffalo

2000–2001 **Guidant Fellowship for outstanding achievement**.
One fellowship was awarded by the Department of Computer Science and Engineering, University of Minnesota

1992 **Japanese Government Scholarship**.
Awarded for outstanding achievement to 16 undergraduates in Vietnam to study in Japan

1990 **Vietnamese Government Scholarship**.
Awarded for top scoring in the University Entrance Examination

1990 **First prize**, *Ho Chi Minh city Mathematical Olympiad*.

1989–1990 **Various prizes**, *Vietnamese Mathematical Olympiads*.

1988 **Second prize**, *Ho Chi Minh city Physics Olympiad*, (No first prize awarded).

Selected Professional Activities

PODS 2019 **TPC member**.
The 37th ACM Symposium on Principles of Database SystemsTheory

PODS 2018	**TPC member**. The 36th ACM Symposium on Principles of Database SystemsTheory
ICDT 2017	**TPC member**. International Conference on Database Theory
2010–2015	**Associate Editor**. Discrete Mathematics, Algorithms, and Applications
INFOCOM 2008–2015	**TPC member**. IEEE Conference on Computer Communications (INFOCOM)
COCOON 2009	**Conference and program chair**. The 15th International Conference on Combinatorics and Computing (COCOON)
WoWMoM 2006	**Local arrangement chair**. IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks
2011–2014	**Co-organizer**. Coding, Complexity, and Sparsity Workshop
GLOBECOM 2011	**TPC member**. IEEE Global Communications Conference
ICC 2008–2010	**TPC member**. IEEE International Conference on Communications
ISAAC 2009	**TPC member**. International Symposium on Algorithm and Computation
AINA 2007–2009	**TPC member**. IEEE International Conference on Advanced Information Networking and Applications
HPSR 2006	**TPC member**. IEEE Workshop on High Performance Switching and Routing
COCOON 2003	**TPC member**. International Conference on Combinatorics and Computing
NSF Panels	**Panelist**. Several NSF panels
2001–present	**Referee**. Many profesional journals and conferences, including IEEE Transactions on Computers, SIAM Journal on Discrete Mathematics, IEEE Transactions on Parallel and Distributed Systems, IEEE/ACM Transactions on Networking, Journal of Complexity, Theoretical Computer Science, IEEE Journal on Selected Areas in Communications, Information Processing Letters, The Computer Journal, IEEE Transactions on Parallel and Distributed Systems, Journal of Combinatorial Optimization, ACM Transactionson Database Systems, ESA, ICC, GlobeCom, COCOON, INFOCOM, SODA, PODS, SIGMOD, ICDT, etc.
Sporadically	**Reviewer**. Mathematical Reviews (MathSciNet)

Selected Departmental Services

2012–2015	**Director of Graduate Studies**.
2012–2015	**CSE Executive Commitee**.
2012–2015	**Alternate Member of SEAS Tenture Committee**.
2001–2006 2007–2012	**Graduate Affairs Committee**.
2011–2012 2002–2006	**Faculty Search Committee**.
2006–2007	**Undergraduate Affairs Committee**.
2002–2003 2008–2010	**Library Commitee**.

2003–2004	**Internship Commitee**.
2004–2005	**Chair of the Colloquium Committee**.
2001–2002	**Facilities Committee**.

Research Supervision

2013–2016	**Mahmoud Abo Khamis**, *Ph.D. student*, First employer: LogicBlox. Thesis title: "FAQ: Querstions Asked Frequently"
2006–2011	**Thanh-Nhan Nguyen**, *Ph.D. student*, First employer: IBM. Thesis title: "Algorithms for some Network Design Problems"
2006–2011	**Anh N. Le**, *Ph.D. student*, First employer: a startup. Thesis title: "On Data Flow Masquerading"
2005–2010	**Yang Wang**, *Ph.D. student*, First employer: Google. Thesis title: "New Results in the Design and Analysis of Non-blocking Switching Networks"
2004–2009	**Duc T. Ha**, *Ph.D. student*, First employer: Sumo Logic. Thesis title: "Propagating Malicious Codes: Theory and Experiments"
2001–2006	**Dazhen Pan**, *Ph.D. student*, First employer: Microsoft. Thesis title: "Complexity and Constructions of WDM Switching Networks"
2003–2005	**Tuong Nguyen**, *M.S. student*, Currently with M_Service JSC, Vietnam.
2003–2005	**Harleen Dhillon**, *M.S. student*, Currently Vice President at Ennovance Capital LLC. Thesis title: "On reducing control overhead in on-demand multicast routing protocol"
2001–2003	**Vikas P. Verma**, *M.S. student*, With FCS Business Solulutions. Thesis title: "Distributed Algorithms for Computing Connected Dominating Sets."
2001–2003	**Purnima M. Mavinkurve**, *M.S. student*, First employer: Amazon. Thesis title: "Centralized and Distributed Algorithms for Power-Conserving Multicasting in Static Wireless Ad Hoc Networks"

Ph.D. Dissertation Committee Member

2004	**Xiaojun Cao**, *Advisor: Chunming Qiao*, Defended.
2005	**Huaming Zhang**, *Advisor: Xin He*, Defended.
2005	**Ramkumar Chinchani**, *Advisor: Shambhu Upadhyaya*, Defended.
	Sumesh Philip, *Advisor: Chunming Qiao*, defended May 2005.
	Xiang Yu, *Advisor: Chunming Qiao*, Defended.
2006	**Guang Xu**, *Advisor: Jinhui Xu*, Defended.
2007	**Zhenming Chen**, *Advisor: Jinhui Xu*, Defended.
	Peng Lin, *Advisor: Chunming Qiao*, Defended.
2008	**S. Vidyaraman**, *Advisor: Shambhu Upadhyaya*, Defended.
	Yulai Xie, *Advisor: Jinhui Xu*, Defended.
	Mingen Lin, *Advisor: Jinhui Xu*, Defended.
2009	**Xuming Lu**, *Advisor: Murat Demirbas*, Defended.
	Madhusudhanan Chandrasekaran, *Advisor: Shambhu Upadhyaya*, Defended.
	Xin Liu, *Advisor: Chunming Qiao*, Defended.
	Seokhooon Yoon, *Advisor: Chunming Qiao*, Defended.
	Xi Zhang, *Advisor: Jan Chomicki*, Defended.
	Sunu Mathew, *Advisor: Shambhu Upadhyaya*, Defended.
2010	**Asheq Khan**, *Advisor: Satish Tripathy*, Defended.
	Onur Soyal, *Advisor: Murat Demirbas*, Defended.
2011	**Steve Uurtamo**, *Advisor: Atri Rudra*, Defended.
	Yongding Zhu, *Advisor: Jinhui Xu*, Defended.

2012 **Jia Zhao**, *Advisor: Chunming Qiao*, Defended.
Lei Xu, *Advisor: Jinhui Xu*, Defended.

2013 **Albert Chen**, *Advisor: Jason Corso*, Defended.
Liang Ge, *Advisor: Aidong Zhang*, Defended.
Swapnooneel Roy, *Advisor: Atri Rudra*, Defended.

2014 **Manavender Reddy**, *Advisor: Venu Govindaraju*, Defended.
Caiming Xiong, *Advisor: Jason Corso*, Defended.
Aditya Wagh, *Advisor: Chunming Qiao*, Defended.
Utkarsh Porwal, *Advisor: Venu Govindaraju*, Defended.
Dung Nguyen, *Advisor: Alan Selman*, Defended.
Hu Ding, *Advisor: Jinhui Xu*, Defended.

2015 **Zilong Ye**, *Advisor: Chunming Qiao*, Defended.
Arti Shivram, *Advisor: Venu Govindaraju*, Defended.
Yingbo Zhou, *Advisor: Venu Govindaraju*, Defended.

2016 **Jiun-Jie Wang**, *Advisor: Roger He*, Defended.
Vishrawas Gopalakrishnan, *Advisor: Aidong Zhang*, Defended.
Devansh Arpit, *Advisor: Venu Govindaraju*, Defended.
Qi Li, *Advisor: Jing Gao*, Defended.

M.S. Thesis Committee Member

2003 **Ranjani Sridharan**, *Advisor: Ramalingam Sridhar*, Defended.
2004 **Aarthie Muthukrishnan**, *Advisor: Shambhu Upadhyaya*, Defended.
2005 **Aruna Balasubramanian**, *Advisor: Ramalingam Sridhar*, Defended.
2005 **Madhusudhanan Chandrasekaran**, *Advisor: Shambhu Upadhyaya*, Defended.

Grant Support

2014–2018 **National Science Foundation (NSF)**, *Proposal # CNF-1409551*, **PI**, $1,215,973.
"TWC: **Medium**: Collaborative: Data is Social: Exploiting Data Relationships to Detect Insider Attacks." (UB co-PIs: Varun Chandola, Oliver Kennedy, Shambhu Uphadyaya. Michigan co-PI: XuanLong Nguyen.) UB's share $975,999.00. 2014–2018

2013–2016 **National Science Foundation (NSF)**, *Proposal # CCF-1319402*, **PI**, $499,999.
"AF:III:Small:Collaborative Research: New Frontiers in Join Algorithms: Optimality, Noise, and Richer Languages." (UB Co-PI: Atri Rudra, Stanford Co-PI: Chris Ré.) UB's share $326,101.00.

2012–2015 **National Science Foundation (NSF)**, *Proposal # CCF-1161196*, **co-PI**, $1,199,230.
"AF: **Medium**: Collaborative Research: Sparse Approximation: Theory and Extensions." (Lead PI: Anna Gilbert, Michigan; UB's co-PI: Atri Rudra, Rutger's co-PI: Muthu Muthukrishnan). UB's share $305,467.

2004–2009 **National Science Foundation (NSF)**, *Proposal # CCF-0347565*, **PI**, $409,999.
"CAREER: Designs and Analyses of WDM Switching Architectures."

2004–2006 **The Defense Advanced Research Projects Agency (DARPA)**, **co-PI**, $1,292,295.
"Mitigating the Insider Threat using High-dimensional Search and Modeling." (Lead PI: Eric Van Den Berg, Telcordia Technologies; UB's PI: Shambhu Upadhyaya. We were a subcontractor from Telcordia. The other subcontractor is R. Maxion, CMU.) UB's share $ 255,862.

2012–2013 **Gift from LogicBlox Inc.**, $35,000.

Selected Invited Talks

PODS 2018 **Gems of PODS**, *Worst-case Optimal Join Algorithms: Techniques, Results, and Open Problems.*
The 37th Symposium on Principles of Database Systems. Houston, TX, U.S.A.

AMW 2018   **Keynote**, *Worst-case Optimal Join Algorithms: Techniques, Results, and Open Problems.*
The 12th Alberto Mendelzon International Workshop on Foundations of Data Management, Cali, Colombia, May 22–25, 2018.

Oxford 2017   **Information Systems Seminar**, *Disjunctive Datalog, Shannon-type Inequalities, and Submodular Width.*
Department of Computer Science, Oxford University, UK. Fall 2017.

HIGHLIGHTS 2017   **Keynote**, *Disjunctive Datalog, Shannon-type Inequalities, and Submodular Width.*
Highlights of Logic, Games, and Automata, Sep 2017, London, U.K.

Stanford 2017   **Logic Group Seminar**, *Functional Aggregate Queries are FAQs.*
Computer Science Department, Stanford University, Spring 2017.

Berkeley 2017   **RISE Lab Seminar**, *Way Beyond Worst-Case Optimal Algorithms.*
Computer Science and Engineering, UC Berkeley, Spring 2017.

UCSD 2016   **Database Seminar**, *Functional Aggregate Queries Asked Frequently.*
Department of Computer Science, UCSD, Spring 2016.

Wisconsin 2016   **Database Seminar**, *Functional Aggregate Queries Asked Frequently.*
Department of Computer Science, University of Wisconsin at Madison, Spring 2016.

Oxford 2015   **Database and Knowledge Representation Seminar**, *Functional Aggregate Queries Asked Frequently.*
Department of Computer Science, Oxford University, UK. Fall 2015.