Truong X. NGHIEM

(a) Professional Preparation

Hanoi University of Technology	Hanoi, Vietnam	Automatic Control	B.S.	2003
University of Pennsylvania	Philadelphia, PA	Electrical & Systems Engineering	Ph.D.	2012

(b) Appointments

Northern Arizona University	Flagstaff, AZ	Assistant Professor	Jan 2018 – now
University of Pennsylvania	Philadelphia, PA	Postdoc Researcher	Jun – Dec 2017
EPFL	Lausanne, Switzerland	Postdoc Scientist	Jan 2015 – Jun 2017
University of Pennsylvania	Philadelphia, PA	Postdoc Researcher	Oct 2012 – Dec 2014
University of Pennsylvania	Philadelphia, PA	Research Assistant	2005 – 2012
NEC Laboratories America	Princeton, NJ	Summer Intern	Jun – Sep 2008
Hanoi University of Technology	Hanoi, Vietnam	Lecturer	2003 – 2005

(c) Products

(i) Products related to the Proposed Project

1. Sriram Sankaranarayanan, Franjo Ivancic, Aarti Gupta, and Truong X. Nghiem. U.S. Patent: System and method for feedback-guided test generation for Cyber-physical Systems using Monte-Carlo. Patent number: US 8,374,840 B2. Patent grant date: February 12, 2013.

2. Truong X. Nghiem, Sriram Sankaranarayanan, Georgios Fainekos, Franjo Ivancic, Aarti Gupta, and George J. Pappas. Monte-Carlo Techniques for Falsification of Temporal Properties of Non-Linear Hybrid Systems. In *Proceedings of the 13th ACM International Conference on Hybrid Systems: Computation and Control (HSCC)*, pages 211-220. Springer, Apr 2010. doi:10.1145/1755952.1755983.

3. Yash Vardhan Pant, Kartik Mohta, Houssam Abbas, Truong X. Nghiem, Joseph Devietti, and Rahul Mangharam. Co-Design of Anytime Computation and Robust Control. In *Proceedings of the IEEE Real-Time Systems Symposium (RTSS)*. IEEE, Dec 2015.

4. Truong X. Nghiem, George J. Pappas, Rajeev Alur, and Antoine Girard. Time-Triggered Implementations of Dynamic Controllers. In *ACM Transactions in Embedded Computing Systems*, vol. 11, pages 58:1-24. Aug 2012.

(ii) Other Significant Products

1. Achin Jain, Truong X. Nghiem, Manfred Morari, and Rahul Mangharam. Learning and Control Using Gaussian Processes: Towards Bridging Machine Learning and Controls for Physical Systems. In *International Conference on Cyber-Physical Systems (ICCPS)*. Apr 2018. doi:ICCPS.2018.00022.

2. Truong X. Nghiem, Georgios Stathopoulos, and Colin Jones. Learning Proximal Operators with Gaussian Processes. In *Annual Allerton Conference on Communication, Control, and Computing*. Oct 2018.

3. Truong X. Nghiem and Colin N. Jones. Data-Driven Demand Response Modeling and Control of Buildings with Gaussian Processes. In *Proceedings of the 2017 American Control Conference (ACC)*, pages 2919-2924. May 2017. doi:10.23919/ACC.2017.7963394.

4. Truong X. Nghiem and Rahul Mangharam. Scalable Scheduling of Energy Control Systems. In *Proceedings of the ACM & IEEE International Conference on Embedded Software (EMSOFT)*, pages 137–146. Oct 2015. doi:10.1109/EMSOFT.2015.7318269.

5. Truong X. Nghiem and George J. Pappas. Receding-Horizon Supervisory Control of Green Buildings. In *Proceedings of the American Control Conference*, pages 4416-4421. Jun 2011.

(d) Synergistic Activities

1. Member of the IEEE Technical Committee on Cyber-Physical Systems since 2018.

2. Chair of the session "Verification and Analysis of Hybrid Systems" at the 2015 ACM & IEEE International Conference on Embedded Software (EMSOFT).

3. New course ESE 680 "Digital Twins: Model Based Embedded Systems" at the University of Pennsylvania in 2017.

4. Presenter on robotics at Flagstaff Coding Camps 2018 for school children, and panelist at the Flagstaff Festival of Science 2018.

5. Research software: main developer of the research software MLE+ for building energy simulation, analysis, optimization and control; main developer of the research software OpenBuildNet – a co-simulation platform for large-scale distributed control and simulation of complex multi-agent cyber-physical systems.