

Approved by the
Regents
May 21, 2015

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
COLLEGE OF LITERATURE, SCIENCE, AND THE ARTS

Xuanlong Nguyen, assistant professor of statistics, College of Literature, Science, and the Arts, and assistant professor of electrical engineering and computer science, College of Engineering, is recommended for promotion to associate professor of statistics, with tenure, College of Literature, Science, and the Arts, and associate professor of electrical engineering and computer science, without tenure, College of Engineering.

Academic Degrees:

Ph.D.	2007	University of California, Berkeley
M.A.	2007	University of California, Berkeley
M.S.	2001	University of California, Berkeley
B.S.	1999	Pohang University of Science and Technology, South Korea

Professional Record:

2009 – present	Assistant Professor, Department of Statistics and Department of Electrical Engineering and Computer Science, University of Michigan
2007 – 2009	Post-doctoral Fellow, Department of Statistical Science, Duke University, and Statistical and Applied Mathematical Sciences Institute (SAMSI)

Summary of Evaluation:

Teaching – Professor Nguyen is a passionate and committed teacher. Students are attracted by his talent and the generous guidance and support that he offers. He has demonstrated impressive maturity in making major revisions to his courses so that they better reflect the nature of topics and problems at the forefront of statistical research today. His teaching balances novel theoretical concepts with a firm level of pragmatism. In a course on data mining, he has integrated some of the course projects with the data mining competition for Michigan undergraduate students, and on two occasions he was the mentor of the winning teams. Professor Nguyen has supervised seven doctoral students, three of whom have graduated. He has also mentored two post-doctoral research fellows.

Research – Professor Nguyen is an exceptional statistician. His core interests center around Bayesian nonparametric statistics in hierarchical graphical models, machine learning and distributed inference. His research is characterized by a rigorous formulation and theoretical analysis of difficult problems, insightful studies of the modeling and algorithmic aspects of such problems, and an avid interdisciplinary interest. One of Professor Nguyen's key pioneering contributions is the successful use of optimal transport theory in statistical research, especially in Hierarchical Bayesian nonparametrics, which has important implications in the study of latent variable models.

Recent and Significant Publications:

“Convergence of latent mixing measures in finite and infinite mixture models,” *Annals of Statistics*, 41(1), 2013, pp. 370-400.

- “Sequential detection of multiple change points in networks: a graphical model approach,” with A. A. Amini, *IEEE Transactions on Information Theory*, 59(9), 2013, pp. 5824-5841.
- “The Dirichlet labeling process for clustering functional data,” with A. E. Gelfand, *Statistica Sinica*, 32(3), 2011, pp. 1249-1289.
- “On surrogate loss functions and f -divergences,” with M. Wainwright and M. I. Jordan, *Annals of Statistics*, 37(2), 2009, pp. 876-904.

Service – Professor Nguyen has served on a variety of committees in Statistics, including multiple Ph.D. admissions and faculty search committees. He has been a member of more than ten Ph.D. committees in his department as well as other units on campus. Professionally, Professor Nguyen has been very active in editorial work and conference organization. He is also committed to the teaching and development of research capacity in statistics in Vietnam and other countries in Southeast Asia. In 2012, he co-organized a research program in statistics and machine learning at the Institute for Advanced Studies of Mathematics in Hanoi, Vietnam.

External Reviewers:

Reviewer (A)

“...I believe that Nguyen’s scholarly activities are of sufficiently high quality and quantity to warrant promotion to Associate Professor with tenure at the University of Michigan, and I very strongly support this promotion.”

Reviewer (B)

“Long is a rising star, gaining an international reputation. His recent prestigious NSF CAREER award provides testament to the originality of his thinking. ... He is increasingly in demand at meetings, averaging half a dozen invitations per year. Altogether the evidence of an outstanding trajectory is clear.”

Reviewer (C)

“...Long is an unusually gifted and accomplished researcher [of his cohort], someone who I would clearly rank as one of the strongest theoretically-inclined statisticians of his generation. He has at least two seminal lines of research under his belt—his recent work on optimal transport theory for Bayesian hierarchical models and his thesis work on surrogate loss functions.”

Reviewer (D)

“...it is clear that Long Nguyen’s work has had solid impact, with impressive breadth, quality, and technical contributions. ... His research combines theoretical and applied perspectives, and addresses questions of foundational importance in statistics. Moreover, he appears to be on a steep increasing portion of his career research curve, with his best results obtained during the last couple of years. ... The future work he describes is exciting and promising. ...he is active in service to the larger statistics and machine learning communities.”

Reviewer (E)

“XuanLong Nguyen has compiled a record that would easily result in tenure and promotion here at [my university]. He has done first-rate research which has appeared in top journals. He has worked successfully with others and has shown the independence to set his own research agenda. ... Long’s strength has been recognized with his receiving an NSF CAREER Award.”

Reviewer (F)

“Long’s ingenious use of the Wasserstein metric beautifully settled the issue [of what would be the appropriate notion of ‘close’ to the ‘true’ mixing distribution]. ... This is indeed a remarkable paper and the techniques developed there would have a lasting impact on the study of posterior consistency.”

Reviewer (G)

“I view Xuanlong as an all-[a]round excellent statistical machine learning researcher with particular strength on developing sophisticated new theoretical tools to help us understand some of the complex models that have been developed in recent years. He has always struck me as a very smart person, who is on top of all the theoretical, methodological and modelling aspects of machine learning and computational statistics.”

Reviewer (H)

“The evaluation can be quite simple. Not only has XuanLong Nguyen been very productive, many of his publications are also of the highest quality. ... The publications and the research statement show the mark of a mature researcher. Even a small subset of this work would qualify XuanLong Nguyen for the best departments of statistics in the USA.”

Reviewer (I)

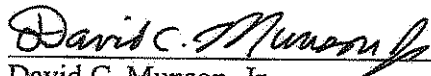
“...my evaluation of his work is extremely positive, on all aspects of the academic profession. Dr. Nguyen has produced work of excellent quality, focusing on broad areas of Bayesian nonparametric statistics and machine learning, and has published in the very best outlets in statistics.”

Summary of Recommendation:

Professor Nguyen is already among the elite researchers in machine learning and statistics. He is an outstanding teacher and has served his department and profession with dedication and energy. The Executive Committees of the College of Literature, Science, and the Arts and the College of Engineering, and we recommend that Assistant Professor Xuanlong Nguyen be promoted to the rank of associate professor of statistics, with tenure, College of Literature, Science, and the Arts, and associate professor of electrical engineering and computer science, without tenure, College of Engineering.



Andrew D. Martin
Dean, and Professor of Political Science
College of Literature, Science, and the Arts



David C. Munson, Jr.
Robert J. Vlasic Dean of Engineering
College of Engineering

May 2015