Approved by the Regents
May 21, 2020

PROMOTION RECOMMENDATION
The University of Michigan
College of Literature, Science, and the Arts

Xuanlong Nguyen, 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, is recommended for promotion to professor of statistics, with tenure, College of Literature, Science, and the Arts, and 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	Arizona State University
B.S.	1999	Pohang University of Science and Technology, South Korea

Professional Record:

2017 – present	Director of Programs in Applied Statistics, University of Michigan
2017 – present	Core faculty member of Michigan Institute for Data Science (MIDAS)
2015 – present	Distinguished Associate Member, Vietnam Institute for Advanced Study in Mathematics (VIASM)
2015 – present	Associate Professor, Department of Statistics, and Department of Electrical Engineering, University of Michigan
2009 – 2015	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 the Statistical and Applied Mathematical Sciences Institute (SAMSI)

Summary of Evaluation:

Teaching – Professor Nguyen has taught courses in statistics and machine learning at the undergraduate and graduate levels. His E&E scores are in line with the average of other instructors of the same courses. He plans well for his classes and likes to challenge students to aim high. He emphasizes mathematical rigor in teaching and also makes an effort to guide students to solve real world data-driven problems. Outside the classroom, he engages actively in the mentoring of undergraduate researchers. He supervises several Ph.D. students in statistics, and serves as a faculty mentor in the Summer Big Data Institute at Michigan. The second aspect of his teaching record is his contribution to the statistics curriculum. Since 2015, Professor Nguyen has helped develop a new course and redesigned a popular Master's level course in statistical learning. He was the first in the Department of Statistics to offer a new course aimed at offering undergraduate research experience for honors students in statistics. He provided the capstone experience for highly motivated students and offered them the opportunity to work individually and in small groups on big data projects. He took over STATS 503 in winter 2017, a core Master's level course on statistical learning, and scaled it to meet the increasing demand of students from LSA and across campus.

Research – Professor Nguyen is a world leader in Bayesian nonparametric statistics, a modern field of importance in the modeling and analysis of complex data. In recent years, he tackled the question of statistical inference inside the databases. In typical applications, data are often stored as a collection of relational tables or images, but the traditional statistical tools for inference do not apply to such problems. Professor Nguyen has worked with database researchers to develop new algorithms for training supervised learning models over relational data. This promises to stimulate new research in the big data era and is likely to have significant impact over data-driven prediction and inference for the years to come. Professor Nguyen has an excellent record of grant support, and his work has been continuously supported by external funding.

Recent and Significant Publications:

"Singularity structures and impacts on parameter estimation in finite mixtures of distributions," with N. Ho, *SIAM Journal on Mathematics of Data Science*, 1(4), 2019, pp. 730-58.

"Convergence rates of parameter estimation in weakly identifiable mixture models," with N. Ho, *Annals of Statistics*, 44(6), 2016, pp. 2726-2755.

"Borrowing strength in hierarchical Bayes: Posterior concentration of the Dirichlet base measures," *Bernoulli,* 22(3), 2016, pp. 1535-1571.

"Posterior contraction of the population polytope in admixture models," *Bernoulli,* 21(1), 2015, pp. 618-46.

Service – Professor Nguyen plays a leadership role in the Department of Statistics as the director of the Applied Master's program. Under his leadership, this program has grown significantly. The program serves a large number of dual degree students on campus. He recognizes the importance of the dual degree program to those students, and he makes great efforts to work with them one by one to ensure they are successful. He has an excellent service record in the wider statistics community. He serves as an associate editor for four major journals in statistics and data science, including the premier journal in theoretical statistics, *Annals of Statistics*. He has served on committees of various international societies, and he is highly visible in the machine learning community. On campus, Professor Nguyen serves on the MIDAS management team and has worked closely with MIDAS leadership on faculty recruitment and other research activity planning.

External Reviewers:

Reviewer (A)

"…Long Nguyen is a world leader in a vital field. He is creative, productive, and a model of academic integrity and brilliance. I would happily support his promotion to full professor here at [my institution]. I support his promotion in the most enthusiastic of terms."

Reviewer (B)

"…I am very enthusiastic in recommending that he be promoted. Long is a rare gem in our profession in being a true scholar and brilliant intellect who is truly seeking to push forward the frontier of knowledge in important and fundamentally challenging areas. There is no question at all about his independence, creativity, technical skill set and ability to open up new areas."

Reviewer (C)
"Long's service contributions to the profession, editorial service, professional meeting organization and participation, and educational leadership in your department, are absolutely outstanding. There is no doubt that he would be promoted to professor at [my institution]."

Reviewer (D)
"His research combines theoretical and applied perspectives, and addresses questions of foundational importance in statistics. His work since tenure confirms the quality and impact of his research, and his stature in the field. I recommend Long Nguyen for promotion to full professor with enthusiasm."

Reviewer (E)
"He has everything we look for in a promotion case and more. The placement of several of his students and postdocs is impressive (faculty positions at UCLA, Yonsei University and the University of Montreal; postdocs at Berkeley and Minnesota that will lead to faculty positions). He has a strong and visible presence in the community."

Summary of Recommendation:
Professor Nguyen has established himself as a leader in his research field. He contributes greatly to the profession, is dedicated to student mentoring and advising at all levels, and has provided strong leadership and service at UM and in the broader scientific community. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Associate Professor Xuanlong Nguyen be promoted to the rank of professor of statistics, with tenure, College of Literature, Science, and the Arts, and professor of electrical engineering and computer science, without tenure, College of Engineering.

Anne Curzan, Dean
Geneva Smitherman Collegiate Professor of
English Language and Literature, Linguistics,
And Education
Arthur F. Thurnau Professor
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Alec D. Gallimore, Ph.D.
Robert J. Vlassic Dean of Engineering
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