PROMOTION RECOMMENDATION
The University of Michigan-Dearborn
College of Engineering and Computer Science
Department of Computer and Information Science

Zhiwei Xu, assistant professor of computer and information science, Department of Computer and Information Science, College of Engineering and Computer Science, is recommended for promotion to associate professor of computer and information science, with tenure, Department of Computer and Information Science, College of Engineering and Computer Science.

Academic Degrees:

Ph.D.	2001	Florida Atlantic University, Boca Raton, Florida, USA
M.Sc.	1997	Guangxi University, Guangxi, People's Republic of China
B.Sc.	1994	Wuhan University of Technology, Wuhan, People's Republic of China

Professional Record:

2007 – Present	Assistant Professor of Computer and Information Science, Department of Computer and Information Science, University of Michigan-Dearborn
2001 – 2007	Senior Software Engineer and Research Scientist, Motorola Inc., Schaumburg, IL
1999 – 2001	Research Assistant, Empirical Software Engineering Laboratory, Florida Atlantic University, Boca Raton, FL
1998 – 1999	Research Assistant, Fuel Cell Laboratory, Florida Atlantic University, Boca Raton, FL
1997 – 2001	Graduate Teaching Assistant, Computer and Electrical Engineering Department and Computer Science Department, Florida Atlantic University, Boca Raton, FL
1999 – 2000	Software Engineer, Datalister, Inc., Boca Raton, Florida
1998 – 1999	Software Engineer, Ocwen Technology Exchange, West Palm Beach, Florida

Summary of Evaluation:

Teaching: Professor Xu is rated significantly capable in teaching. His overall student evaluation score is slightly above 3.0, out of 4 points. In his graduate courses, his student projects are very much liked, for their depth and state-of-the-art topics. He has been a Master's thesis advisor for five students and a Master's project advisor for 14 students. Professor Xu has done major revisions on two software engineering graduate courses and has designed two new Ph.D. courses in software engineering.

Research: Professor Xu is rated excellent in his research. He has been an author and an important co-author on many papers published in the top journals of his field. As PI/co-PI, he has acquired a total of $598,140 from external/internal sources. Since Professor Xu has been in the department, he has made five research presentations at several universities and companies.

Recent and Significant Publications:
David Degras, Zhiwei Xu, Ting Zhang, and Wei Biao Wu, Testing for parallelism among trends in multiple time series, *IEEE Transactions on Signal Processing*, 60(3), pp. 1087-1097, 2012.
Zhiwei Xu, Yi Liu, and Yongning Tang, 'Adopting the information contained by outliers in the modeling process,' *The International Journal of Computers and Their Applications*, 18(2), pp. 100-110, 2011.

Yongning Tang, Guang Cheng, and Zhiwei Xu, Probabilistic and reactive fault diagnosis for dynamic overlay networks, *Peer-to-Peer Networking and Applications*, 4(4), pp. 439-452, 2010. (1 citation – Google Scholar)

Zhen-Jun Shi, Shengquan Wang, and Zhiwei Xu, The convergence of conjugate gradient method with nonmonotone line search, *Applied Mathematics and Computation*, 217(5), pp. 1921-1932, 2010. (2 citations – Google Scholar)

Zhou Zhou, Zhiwei Xu, and Wei Biao Wu, Long-term prediction intervals of time series, *IEEE Transactions on Information Theory*, 56(3), pp. 1436-1446, 2010. (4 citations – Google Scholar)

Zhen-Jun Shi, and Zhiwei Xu, The convergence of subspace trust region methods, The *Journal of Computational and Applied Mathematics*, 231(1), pp. 365-377, 2009. (7 citations – Google Scholar)

Zhiwei Xu, and Taghi M. Khoshgoftaar, Identification of fuzzy models of software cost estimation, *Fuzzy Sets and Systems*, 145(1), pp. 141-163, 2004. (61 citations – Google Scholar)

Zhiwei Xu, Tahi M. Khoshgoftaar, and Edward B. Allen, Application of fuzzy expert systems in assessing operational risk of software, *Information & Software Technology*, 45(7), pp. 377-388, 2003. (32 citations – Google Scholar)

Zhiwei Xu, and Taghi M. Khoshgoftaar, Software quality prediction for high-assurance network telecommunications systems, *The Computer Journal*, British Computer Society, 44(6), pp. 557-568, 2001 (15 citations – Google Scholar)

Service: Professor Xu is rated significantly capable in his service. He has participated as a program committee member in seven conferences and workshops related to his research areas. He also has organized a conference special session and chaired two conference sessions. He has reviewed numerous papers for eight different journals. Finally, he has participated in an NSF grant review panel. Locally, he has participated on several committees at the department level, including the Graduate Committee and the Search Committee.

External Reviewers:
Reviewer A: "... I am impressed by the technical sophistication of the work and by the high significance of the contributions. ... His work appears to be promising for continued development and more extensive application."

Reviewer B: "I am very pleased to have been given the opportunity to observe the fine work that Dr. Xu has accomplished during the last eight years. Dr. Xu has been able to build on his solid background in fuzzy logic and move his research to a new area (software testing). ... his previous work on software estimation is of great value ... his work on system regression test planning, published at Information Science, is very innovative and promising."

Reviewer C: "He has published in the prestigious journals such as IEEE Transactions on Signal Processing, IEEE Transactions on Information Theory, and Information Sciences. His work shows depth with reasonable breadth. ... The most impressive is his research on time series data analysis ... Dr. Xu also did amazing work in bring [sic] optimization to software engineering, effectively creating an interdisciplinary research area between two seemly disjoint fields."

Reviewer D: "He has established himself as a rising star in the field of software engineering, time series analysis and optimization. Zhiwei has an excellent record of his research funding. ... He is very promising in his professional area."
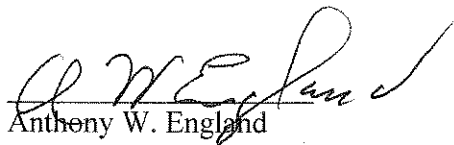
Reviewer E: "Dr. Xu has published a number of his papers and [sic] good quality journals. ... He has one paper that is cited around 60 times and two other papers with citation counts between 30 and 50. All five [sic] of these papers were with his advisor and published prior to his position at UM-Dearborn. ... From my experience, his current funding track record is well within, or above, the norms of faculty at similar type institutions. ... It should be noted that the total number of citations of Dr. Xu's work is relatively high and should be viewed very favorably. ... Dr. Xu has demonstrated abilities to develop an independent scholarly research program, publish the results in good venues, and secure external funding. ... It appears he will continue to be a productive faculty member for many years to come."

Reviewer F: "The most recent software engineering journal paper 'System regression test planning with a fuzzy expert system' explores test case selection during regression testing, where fuzzy expert system does the selection. Two case studies evaluate this approach and show that this selection is very effective. ... It is a promising and good work."
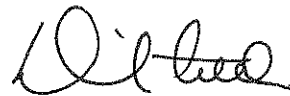
Reviewer G: "... I am impressed with his research records. In my opinion, his record is extraordinary. ... It is clear that Dr. Xu is an active and producing faculty member. ... I believe Dr. Xu will continue to maintain the research record in future. ... In conclusion, Dr. Xu has established a strong track record of research ..."

Summary of Recommendation:
Professor Xu is an excellent researcher, a significantly capable teacher, and a valued colleague. He has published many papers in journals and conferences, has been successful in acquiring very competitive company funding, and has served on several journal and conference committees. His teaching is significantly capable in all of his courses, whether undergraduate or graduate, and his course development efforts are excellent. We are very pleased to recommend, with the strong support of the College of Engineering and Computer Science Executive Committee, Zhiwei Xu for promotion to associate professor of computer and information science, with tenure, Department of Computer and Information Science, College of Engineering and Computer Science.

Anthony W. England
Interim Dean
College of Engineering and Computer Science

Daniel Little
Chancellor
University of Michigan-Dearborn

May 2013