

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

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

Academic Degrees:

Ph.D.	2009	Computer Science, University of California, Irvine, USA
M.E.	2000	Computer Engineering, Nanyang Technological University, Singapore
M.E.	1998	Computer Engineering, Xi'an Jiaotong University, China
B.E.	1995	Computer Science and Engineering, Xi'an Jiaotong University, China

Professional Record:

2015 – present	Associate Professor, University of Michigan-Dearborn
2009 – 2015	Assistant Professor, University of Michigan-Dearborn
2020 – present	Interim Associate Dean for Graduate Education and Research, College of Engineering and Computer Science, University of Michigan-Dearborn
2019 – 2020	Acting Associate Dean for Graduate Education and Research, College of Engineering and Computer Science, University of Michigan-Dearborn
2011 – 2011	Air Force Summer Faculty Fellow, Air Force Research Laboratory, Dayton
2000 – 2005	Senior Research Engineer, Institute for Infocomm Research, Singapore

Summary of Evaluation:

Teaching: Professor Ma is an excellent and dedicated educator with a great passion for delivery of timely and high-quality education for students. She is the pioneer for developing two new programs (BS and MS) in Cybersecurity and Information Assurance at the university to meet the rapid growing education demand in the field. This is an exceptional achievement that is highly regarded by her peers in the field. To establish and improve these programs, she developed eight new courses, established a cybersecurity lab, founded an interdisciplinary center (CCERO – the Cybersecurity Center for Education, Research, and Outreach), and held helpful information sessions for students. To promote students' interest in cybersecurity, she actively engaged undergraduate and graduate students in sponsored projects and supervised multidisciplinary design teams. For classroom instruction, Professor Ma is an effective and passionate instructor. She has taught various courses at both undergraduate and graduate levels and received very good teaching evaluations from students. Her students praised her in various aspects including her deep subject knowledge, well organized course materials, thought provoking discussions, proper online technology utilization, prompt communication, and effective teaching methods.

Research: Professor Ma's primary research interests include connected and automated vehicle cybersecurity, wireless security, and cybersecurity education research. She has made excellent and impactful contributions to these areas and established herself as an internationally known scholar in the field. She has a strong record of publications including ones that appeared in top-tier journals such as IEEE/ACM transactions and prestigious conferences in the field. She has secured highly competitive external research funding from both federal and industrial sources including NSF, NHTSA, Ford, and MCity. Through collaborating with local automotive industrial experts in

studying important real-world problems and producing impactful results, Professor Ma has been recognized as one of the leading researchers in the area of automotive and wireless security. In addition, she has made successful efforts in bringing the state-of-the-art cybersecurity technology into undergraduate and graduate education via sponsored research and student supervision. She is one of the most productive doctoral student supervisors in the department. Furthermore, she has successfully supervised many masters and undergraduate students for thesis/research projects. In recognition of her excellence in research, she is the recipient of several distinguished research awards/honors including the inaugural 2017 CECS Excellence in Research Award and the prestigious 2018 Trevor O. Jones Outstanding Paper Award from the Society of Automotive Engineers (SAE) at WCX19.

Recent and Significant Publications:

- H. Li, Q. Chen, H. Zhu, D. Ma, H. Wen, and X. Shen. Privacy leakage via de-anonymization and aggregation in heterogeneous social networks. *IEEE Trans. on Dependable and Secure Computing* (TDSC). Vol. 17, Issue 2, pp. 350-362, 2020.
- Y. Zhu, R. Yu, and D. Ma. Cryptographic Attribute-based Access Control (ABAC) for Secure Decision-Making of Dynamic Policy with Multi-Authority Attribute Tokens. *IEEE Trans. on Reliability*. Vol. 68, Issue 4, pp. 1330-1346, 2019.
- H. Li, H. Zhu, and D. Ma. Demographic information inference through meta-data analysis of Wi-Fi traffic. *IEEE Trans. on Mobile Computing* (TMC), Vol. 17, Issue 5, pp. 1033-1047, 2018.
- H. Li, Z. Xu, H. Zhu, D. Ma, S. Li, and K. Xing. Demographics inference through Wi-Fi network traffic analysis. IEEE International Conference on Computer Communications (INFOCOM 2016), San Francisco, USA, April 2016.
- H. Li, D. Ma, N. Saxena, B. Shrestha, and Yan Zhu. Tap-Wave-Rub: Lightweight Malware Prevention for Smartphones using Intuitive Human Gestures. *IEEE Trans. on Information Forensics and Security* (TIFS), pp. 2270-2283, Vol. 10, No. 11, 2015.

Service: Professor Ma has made outstanding contributions to both the university community and the professional community. She served on numerous committees in all the levels at the university, including the important UCDC graduate subcommittee, DDC subcommittee, and CECS executive committee. Most prominently, she has demonstrated her exceptional leadership through influential services as the acting/interim CECS associate dean for graduate education and research, founding director of CCERO, and chair for several important committees including the CIS Ph.D. committee and the CECS graduate curriculum committee. In the professional community, she is very active by serving on editorial boards for several journals, program committees for numerous conferences, and organizing/leadership roles for multiple conferences/workshops. In addition, she served on a large number of review panels for NSF and other federal funding agencies. She was also invited to give research presentations at other universities/companies.

External Reviewers:

Reviewer A: "Among these publications, some [J20, J23, J24] serve well as evidence for the quality of her work. IEEE TIFS, TDSC, and TMC are considered top-tier journals with high impact in computer security, privacy, information assurance, and communication. ... Dr. Ma has been active as a leader and a contributing member in professional community providing important service."

Reviewer B: “Di has made excellent contributions to several research areas of wireless and mobile computing security including automotive, IoT, smartphone, RFID systems, and sensor networks. I am very impressed with her versatility, insight, and strong technical approach to addressing fundamental security issues.”

Reviewer C: “Dr. Ma’s contribution to cybersecurity is exceptional. She has become one of the leading researchers and educators in the field of cybersecurity, and her impact in the field is very significant.”

Reviewer D: “Having published in these top venues continuously in 11 years, including after tenure, is a clear indicator that Dr. Ma has been very active and maintained a sustainable research program at UMDearborn. ... Dr. Ma has demonstrated an excellent record in scholarship and service, and stands very well in the field.”

Reviewer E: “While looking over Dr. Ma’s CV and considering her research contributions, her level of scholarly production through publication is above the level that I would expect for a candidate being considered for Full Professor. ... The significant impact on future generations of engineers and researchers brought by this effort is limitless.”

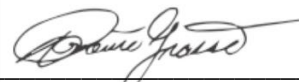
Reviewer F: “Overall, I believe Dr. Ma’s research is of high quality, and substantial quantity. She works on important problems in security of networked systems, and after coming to Dearborn has strategically expanded her research in several areas, including automotive security to capitalize on the strong automotive industry in the area. ... Her work has translated into a large number of publications in well-respected venues.”

Summary of Recommendation:

Professor Ma has not only demonstrated her excellence in teaching, research, and service, but also set another successful well-rounded female role model at the university. We are pleased to recommend, with support of the College of Engineering and Computer Science Executive Committee, Di Ma for promotion to professor of computer and information science, with tenure, Department of Computer and Information Science, College of Engineering and Computer Science.



Ghassan Kridli, Interim Dean
College of Engineering and Computer Science



Domenico Grasso, Chancellor
University of Michigan-Dearborn

May 2021