

PROMOTION RECOMMENDATION  
The University of Michigan  
College of Engineering

Brian D. Noble, associate professor of electrical engineering and computer science, with tenure, Department of Electrical Engineering and Computer Science, is recommended for promotion to professor of electrical engineering and computer science, with tenure, Department of Electrical Engineering and Computer Science, College of Engineering.

Academic Degrees:

Ph.D.	1998	Carnegie Mellon University, Computer Science, Pittsburgh, PA
M.S.	1994	Carnegie Mellon University, Computer Science, Pittsburgh, PA
B.S.	1991	University of California, Electrical Engineering and Computer Science (with high honors), Berkeley, CA

Professional Record:

2004 – present	Associate Professor (with tenure), Department of Electrical Engineering and Computer Science, University of Michigan
2002 – 2004	Morris Wellman Faculty Development Assistant Professor of Computer Science and Engineering, Department of Electrical Engineering and Computer Science, University of Michigan
1998 – 2002	Assistant Professor, Department of Electrical Engineering and Computer Science, University of Michigan

Summary of Evaluation:

Teaching: Professor Noble has been an effective teacher, both in the classroom, and advising students at all levels. He has made outstanding contributions to the teaching mission of the university, particularly in the areas of course development and undergraduate classroom instruction. He received the University Undergraduate Teaching Award in 2010 and the College of Engineering Ruth and Joel Spira Outstanding Teaching Award in 2004, and he has twice been nominated for a Thurnau Professorship. His most significant teaching contribution has been the revitalization of EECS 280. Professor Noble volunteered to take charge of the course, emphasizing larger design concepts and the critical thinking skills necessary for programming. In addition to curricular development, Professor Noble is highly regarded by students as a teacher, advisor, and mentor. His Q1/Q2 ratings since 2004 have averaged 4.48/4.70. Students note his ability to relate complex material to real-world experiences and describe how Professor Noble influenced them through his contagious love for the subject.

Research: Professor Noble's research program is centered on empirical computer science and systems building where he looks for practical and high-impact problems, primarily in the domain of mobile, pervasive, and ubiquitous computing, but with contributions in distributed systems, networking, and operating systems. He has been a leading researcher in the boundaries between operating systems and mobile systems, building a reputation as a creative and innovative researcher attacking big problems with clever solutions. These facts are supported by the external reviewers, who are unanimous in their support of his contributions, and by Professor Noble's consistent publication record at the most competitive and prestigious conferences in his field. Professor Noble receives praise for the high quality of his research and the unusual breadth of his expertise, which ranges from storage and operating systems to mobility and large-scale internet. He is regarded as an out-of-the-box thinker and an established leader in his field.

### Recent and Significant Publications:

- A. Reda, Q. Duong, T. Alperovich, B. Noble, and Y. Haile, "Robit: An Extensible Auction-based Market Platform for Challenged Environments," Proceedings of the International Conference on Information and Communication Technologies and Development 2010 (ICTD), December 2010.
- B. D. Higgins, A. Reda, T. Alperovich, J. Flinn, T. J. Giuli, B. D. Noble, and D. Watson, "Intentional Networking: Opportunistic Exploitation of Mobile Network Diversity," In the 16th Annual International Conference on Mobile Computing and Networking (MobiCom), September, 2010.
- A. Reda, B. Noble, and Y. Haile, "Distributing private data in challenged network environments," Proceedings of the 19<sup>th</sup> International World Wide Web conference (WWW), April 2010.
- J. Mickens, J. Douceur, B. Bolosky, and B. Noble, StrobeLight: Lightweight Availability Mapping and Anomaly Detection," In Proceedings of the 2009 USENIX Annual Technical Conference (USENIX), June 2009.
- A. Nicholson and B. D. Noble, "BreadCrumbs: Forecasting Mobile Connectivity," In the 14<sup>th</sup> International Conference on Mobile Computing and Networking (MobiCom), September 2008.
- J. Mickens and B. D. Noble, "Concillium: Collaborative diagnosis of broken overlay routes," In Proceedings of the International Conference on Dependable Systems and Networks (DSN), June 2007.
- J. Yoon, B. D. Noble, and M. Liu, "Surface street traffic estimation," In Proceedings of the 5<sup>th</sup> Annual ACM/USENIX Conference on Mobile Systems, Applications, and Services (MobiSys), June 2007.
- J. Yoon, B. D. Noble, M. Liu, and M. Kim, "Building realistic mobility models from coarse-grained traces," In Proceedings of the 4<sup>th</sup> Annual ACM/USENIX Conference on Mobile Systems, Applications, and Services (MobiSys), June 2006.
- A. J. Nicholson, Y. Chawathe, M. Y. Chen, B. D. Noble, and D. Wetherall, "Improved Access Point Selection," In Proceedings of the 4<sup>th</sup> Annual ACM/USENIX Conference on Mobile Systems, Applications, and Services (MobiSys), June 2006.
- J. W. Mickens and B. D. Noble, "Exploiting Availability Prediction in Distributed Systems," In Proceedings of the 3<sup>rd</sup> USENIX/ACM Symposium on Networked Systems Design and Implementation (NSDI), May 2006.

Service: Professor Noble's service at the University of Michigan includes important roles as undergraduate advisor, chief program advisor, and chair of the Computer Science and Engineering (CSE) Curriculum Committee for four years, and as member of key committees, including the Faculty Search Committee, the CSE Chair Search Committee, the EECS Internal Review Committee, and the CSE Executive Committee. He is highly respected and sought out for such service, as evidenced by the fact that he was twice elected to the CSE Executive Committee. He has served on the College's Commission on Undergraduate Education, the Diversity and Outreach Council, and the Curriculum Committee. He has also served on the University's IT Council and the Cloud Service Privacy and Data Security Task Force, assuming the role of Domain Steward for Information and Infrastructure Assurance. Outside the University, Professor Noble has served on several technical program committees at highly-regarded top-tier conferences.

### External Reviewers:

Reviewer A: "Brian is an established leader in his field, produces papers of the highest quality, and excels at teaching."

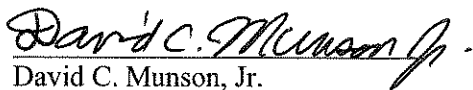
Reviewer B: "Dr. Noble is quite visible. He serves or has served on all the key program committees and editorial boards in all the areas to which he has contributed. He has developed many strong students who are highly recognized in their own right."

Reviewer C: "It is worth noting that a number of Brian's students hold tenure or tenure track positions at top 10 Computer Science departments... I have closely watched Brian's rise from the mid 1990s; initially as star student and then as a very successful faculty and researcher who has made a number of significant contributions to the field of mobile computing."

Reviewer D: "[Brian] is among the top mobile computing researchers and has accomplishments that span a diverse set of topics."

Reviewer E: "...look at Brian's work: it's the leading edge of research on mobility and mobile systems and truly about mobility and not wireless or networking. It's that outlook and record that makes Brian a leader and brings attention to his lab and your university."

Summary of Recommendation: Professor Noble has established himself as one of the leading mobility and mobile systems researcher world-wide, strengthening Computer Science and Engineering at the University of Michigan. He has also established himself as an outstanding teacher and mentor who inspires his students with his enthusiasm and love for computer science. Professor Noble has taken on substantial service. It is with the support of the College of Engineering Executive Committee that I recommend Brian D. Noble for promotion to professor of electrical engineering and computer science, with tenure, Department of Electrical Engineering and Computer Science, College of Engineering.



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

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