

**PROMOTION RECOMMENDATION**  
The University of Michigan  
College of Engineering

Jason N. Flinn, assistant professor of electrical engineering and computer science, Department of Electrical Engineering and Computer Science, is recommended for promotion to associate professor of electrical engineering and computer science, with tenure, Department of Electrical Engineering and Computer Science, College of Engineering.

Academic Degrees:

Ph.D.	2001	Carnegie Mellon University, Computer Science, Pittsburgh, PA
M.S.	1996	Syracuse University, Computer Engineering, Syracuse, NY
B.S.	1991	University of Pennsylvania, Economics, Philadelphia, PA
B.S.E.	1991	University of Pennsylvania, Computer Science, Philadelphia, PA

Professional Record:

2002-present	Assistant Professor, Department of Electrical Engineering and Computer Science, University of Michigan
2001-2002	Postdoctoral Intern, Intel Research Pittsburgh, Pittsburgh, PA
1999	Summer Intern, Compaq Western Research Lab, Palo Alto, CA
1991-1996	Staff Programmer, IBM, E. Fishkill, NY

Summary of Evaluation:

Teaching: Professor Flinn has made outstanding contributions in all aspects of teaching including undergraduate curriculum development, graduate student advising and student mentorship. Professor Flinn is an accomplished teacher, having taught courses at the 200, 400, and 500 level, and has developed a new course on Mobile and Pervasive Systems. His teaching is well-regarded, with average Q1/Q2 scores above 4.3. His students remark on his ability to stimulate discussion in the classroom, his open and engaging style, and the inclusion of his experiences from his research and professional career into class examples. He is also noted for training graduate student instructors, providing them with a healthy mix of independence and support. He has served as advisor for two students who have completed their Ph.D.s, and currently has five more working under his supervision. His graduate students are active researchers, and are highly regarded.

Research: Professor Flinn is one of the leading researchers of his generation in the fields of operating systems and mobile systems. His research accomplishments have been nothing short of outstanding. Professor Flinn's research during his time in the current rank has been focused in two related domains – power management for mobile devices, and relaxing the tension between consistency and performance in storage systems. He has produced work with significant impact in the area of power management in mobile systems, spurring the community to view power holistically rather than piecemeal, and the work has influenced both follow-on research and subsequent products. His work in operating systems has been even more influential. Traditionally, storage systems have considered performance and consistency to be fundamentally at odds. Professor Flinn has shown this to be a false dichotomy, and produced distributed and persistent storage systems that provide consistent data stores with excellent performance characteristics, by exploiting both speculation and causal dependency analysis. This research has led to three award papers in the most prestigious publication venues in mobile computing and operating systems, a record of accomplishment matched only by a handful of more senior researchers worldwide. His contributions are well recognized by the external reviewers who are unanimous in their assessment of

the impact of his research. Professor Flinn has obtained significant funding as PI or co-PI of eight research grants, including an NSF CAREER award.

Recent and significant publications:

- Edmund B. Nightingale, Peter M. Chen, and Jason Flinn, "Speculative Execution in a Distributed File System," *ACM Transactions on Computer Systems*, Vol. 24, No. 4, pp. 361-392, November 2006. (This is a revised version of the SOSP '05 publication listed below).
- Manish Anand, Edmund B. Nightingale, and Jason Flinn, "Self-Tuning Power Management for Wireless Networks," *Wireless Networks*, Vol. 11, No. 4, pp. 451-469, July 2005. (This is an extended version of the Mobicom '03 publication listed below).
- Jason Flinn and M. Satyanarayanan, "Managing Battery Lifetime with Energy-Aware Adaptation," *ACM Transactions on Computer Systems*, Vol. 22 No. 2, pp. 137-179, May 2004.
- Ya-Yunn Su, Mona Attariyan, and Jason Flinn, "AutoBash: Improving Configuration Management with Operating System Causality Analysis," In *Proceedings of the 21st Symposium on Operating Systems Principles (SOSP)*, Stevenson, WA, October 2007.
- Edmund B. Nightingale, Kaushik Veeraraghavan, Peter M. Chen, and Jason Flinn, "Rethink the Sync," in *Proceedings of the 7th USENIX Symposium on Operating Systems Design and Implementation (OSDI)*, Seattle, WA, pp. 1-14, November 2006.
- Daniel Peek and Jason Flinn, "EnsemBlue: Integrating Distributed Storage and Consumer Electronics," in *Proceedings of the 7th USENIX Symposium on Operating Systems Design and Implementation (OSDI)*, Seattle, WA, pp. 219-232, November 2006.
- Edmund B. Nightingale, Peter M. Chen, and Jason Flinn, "Speculative Execution in a Distributed File System," in *Proceedings of the 20th Symposium on Operating Systems Principles (SOSP)*, Brighton, England, pp. 191-205, October 2005.
- Ya-Yunn Su and Jason Flinn, "Slingshot: Deploying Stateful Services at Wireless Hotspots," in *Proceedings of the 3rd Annual Conference on Mobile Computing Systems, Applications, and Services (MobiSys)*, Seattle, WA, pp. 79-92, June 2005.
- Edmund B. Nightingale and Jason Flinn, "Energy-Efficiency and Storage Flexibility in the Blue File System," in *Proceedings of the 6th USENIX Symposium on Operating Systems Design and Implementation (OSDI)*, San Francisco, CA, pp. 363-378, December 2004.
- Manish Anand, Edmund B. Nightingale, and Jason Flinn, "Ghosts in the Machine: Better Interfaces for Power Management," in *Proceedings of the 2nd Annual Conference on Mobile Computing Systems, Applications, and Services (MobiSys)*, Boston, MA, pp. 23-35, June 2004.
- Manish Anand, Edmund B. Nightingale, and Jason Flinn, "Self-Tuning Power Management for Wireless Networks," in *Proceedings of the 9th Annual Conference on Mobile Computing and Networking (MOBICOM)*, San Diego, CA, pp. 176-189, September 2003.

Service: Professor Flinn has made significant contributions to the University and his profession through his service. Colleagues who have served with Jason on committees describe him as thoughtful, conscientious and highly effective. Professor Flinn's internal service on the CSE Graduate Committee has been notable. He has also participated in faculty search above and beyond even the level of many formal Search Committee members. His external service is visible and of high-quality, having served on program committees of 15 conferences and workshops, as a member of the editorial board of *Mobile Communications and Computing Review*, and a member of two NSF panels. His inclusion on several high-profile committees, including *MobiSys* and *OSDI*, is yet another measure of the respect that he has in the community and further evidence of his international reputation.

External Reviewers:

Reviewer A: "Flinn shows that we have all been thinking incorrectly about some fundamental ways in which applications interact with operating systems."

Reviewer B: "...a truly remarkable string of accomplishment that can be matched by only a handful of other researchers at any level of seniority. ... Beyond Professor Flinn's individual contributions, he has played a significant role in elevating the University of Michigan's already strong experimental systems group to be one of the top groups in the world."

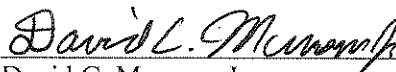
Reviewer C: "Jason has an excellent publication record for impact, quality, and quantity. He has aimed high, focusing on the very best conferences in the field..."

Reviewer D: "At the time, I thought it was poised to have significant impact, and that is exactly what I see happening now as the ideas foster follow-on research and changes in product designs."

Reviewer E: "In summary, the research results put Jason in the category of absolute best researchers in operations systems."

Reviewer F: "The fact that Jason's students have gotten interview invitations from many top CS departments, including Berkeley, Princeton, etc., is a strong indication of the impact and visibility of Jason's research."

Summary of Recommendation: Professor Flinn has established an exemplary record of teaching, research and service at the University of Michigan. Professor Flinn's research accomplishments are truly remarkable, equaled only by a small number of very senior researchers in operating systems and mobile computing. His portfolio of research includes three award papers in the most prestigious venues in his fields of specialization. His teaching record is excellent at both the undergraduate and graduate level, and his students find him to be a dedicated and nurturing teacher and mentor. His internal and external service contributions have been noted as being high quality. It is with the support of the College of Engineering Executive Committee that I recommend Jason Flinn for promotion to associate 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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