PROMOTION RECOMMENDATION
University of Michigan
College of Engineering
Department of Electrical Engineering and Computer Science

Satish Narayanasamy, assistant professor of electrical engineering and computer science, Department of Electrical Engineering and Computer Science, College of Engineering, 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.   2007   University of California, Computer Science, San Diego, CA
M.S.   2005   University of California, Computer Science, San Diego, CA
B.E.   2001   Anna University, Computer Science and Engineering, Chennai, India

Professional Record:

2013 – 2013   Visiting Researcher, Microsoft Research, Redmond, WA
2008 – present   Assistant Professor, Department of Electrical Engineering and Computer Science, University of Michigan
2007 – 2007   Visiting Researcher, Microsoft Research, Redmond, WA
2006 – 2006   Intern, Microsoft Research, Redmond, WA
2003 – 2004   Intern, Intel Corporation, Santa Clara, CA

Summary of Evaluation:

Teaching: Professor Narayanasamy has served as an instructor for several key undergraduate and graduate courses. He has made significant revisions to the core computer science class on compilers (EECS 483) and developed a new graduate course on ubiquitous parallelism. Further, his teaching evaluation scores exhibit a steady rise throughout his career. Student comments about his teaching style are very positive, with students expressing appreciation for his enthusiasm during class, as well as his preparation. He is a dedicated, inspiring, and successful mentor of graduate students, and he has done an excellent job of positively influencing students, both inside and outside the classroom. At the graduate level, Professor Narayanasamy has been serving as the advisor/co-advisor of seven Ph.D. students, two of whom have graduated (one joined academia as an assistant professor and one joined industry). In addition, he has advised or co-advised four M.S. students and directed seven undergraduate major projects.

Research: Professor Narayanasamy's research is aimed at improving the reliability of complex software systems. The importance of this research topic continues to grow as more software is shifted to massively-parallel environments such as multi-core computers and cloud computing infrastructure. Professor Narayanasamy is one of the intellectual leaders of this emerging field. In the last five years, he has published 15 papers in top-tiered venues. His curriculum vitae also lists several invited presentations and three patents awarded. Professor Narayanasamy has also proven adept at securing funding for his research. His share of funding from NSF and industry sources exceeds $1.6 million dollars. He is currently the sole PI for two NSF grants, including a CAREER grant, and the PI for a multi-year, multi-investigator project funded by Intel. Professor Narayanasamy has established an excellent research program, and his future as a researcher is very promising.

Recent and Significant Publications:

Reetuparna Das, Satish Narayanasamy, Sudhir Satapathy and Ron Dreslinski, "Energy Proportional
Multiple Network-on-Chip," in *International Symposium on Computer Architecture*, June 2013.
Abhayendra Singh, Satish Narayanasamy, Dan Marino, Todd Millstein and Madan Musuvathi, "End-to-
end Sequential Consistency," in *Proceedings of the 39th International Symposium on Computer
Architecture*, June 2012.
Dan Marino, Abhayendra Singh, Todd Millstein, Madan Musuvathi and Satish Narayanasamy, "A Case
for an SC-Preserving Compiler," in *Proceedings of the 33nd ACM SIGPLAN Conference on
Programming Language Design and Implementation*, June 2011.
Jie Yu and Satish Narayanasamy, "Tolerating Concurrency Bugs Using Transactions as Lifeguards," in
Proceedings of the 42nd International Symposium on Microarchitecture, December 2010.
Jie Yu and Satish Narayanasamy, "A Case for an Interleaving Constrained Shared-Memory Multi-
Processor," in *Proceedings of the 36th International Symposium on Computer Architecture*, June
2009.

Service: Professor Narayanasamy has excelled in his service contributions to the University of Michigan
and the professional community. His internal service has covered both the graduate program, as a
member of the graduate admissions committee for Computer Science and Engineering, and the
undergraduate program, as undergraduate advisor for the Computer Engineering program. Moreover, he
has shown initiative in graduate student recruiting by visiting several international universities in China
(Tshingua, Peking, Beihang) and India (IITs, Anna). Externally, Professor Narayanasamy has served on
multiple NSF panels and on a large number of program committees for the top forums in his field. He
also serves as a reviewer for several journals and conferences in his field. Professor Narayanasamy's
conscientious work in his research community brings great distinction to the department, the college, and
the university.

External Reviewers:
Reviewer A: "...Satish's publication record is clearly impeccable. It should be noted that these
conferences are the premier publication venue in the field of computer science...I feel that Satish has
achieved an international reputation that would earn him tenure at any university in the country..."

Reviewer B: "Dr. Narayanasamy's research work is of the highest quality and addresses practical issues
related to modern parallel systems...I find Dr. Narayanasamy's record in research and service to be
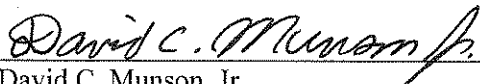outstanding."

Reviewer C: "Prof. Narayanasamy's resume reveals that he has the complete tenure package:
awards such as IEEE Micro Top Picks and NSF CAREER, mostly-strong teaching ratings...two sole
and one joint peer-reviewed funding from NSF, support from industry...and strong
publications...He ranks among the beset architects [of his cohort]..."

Reviewer D: "I have followed Satish's research closely. He is widely considered to be one of the top
systems faculty [of his cohort] in the field of computer science...I consider Satish to be a star
researcher..."

Reviewer E: "...Dr. Narayanasamy has established himself as a leader by publishing papers in the top
conferences in computer architecture...Dr. Narayanasamy's research results are also beginning to have
industrial impact."

Reviewer F: "Satish is widely recognized to be a rising star in the area of detecting and tolerating concurrency bugs in parallel programs, an area of increasing significance given the increasing role of multicore hardware in the 21st century."

Summary of Recommendation: Professor Narayanasamy has established a highly successful record of teaching, scholarly research, and service at the University of Michigan. It is with the unanimous support of the College of Engineering Executive Committee that I recommend Satish Narayanasamy 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

May 2014