

November 30, 2006

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Dear Professor X:

I am writing to apply for a tenure-track faculty position in your department. I am currently a Ph.D. candidate in Electrical and Computer Engineering at Carnegie Mellon University, advised by Prof. Babak Falsafi. I anticipate completing my degree requirements by July of 2007.

My primary research interests lie in the general area of computer architecture, with particular emphasis on multi-core/multiprocessor systems, memory systems, and performance evaluation methodology. In particular, my research interests focus on the emerging trend towards multi-core systems. My overall research goal is to address the question of how we can extend the past trend of exponential computer system performance improvement in an era where cores per die rather than clock frequencies double every two years.

My past research investigates memory system design and performance evaluation methodology for uni- and multiprocessor computer systems. My dissertation research proposes *Temporal Memory Streaming*, a novel memory system design paradigm that exploits repetition in memory access patterns to improve memory system efficiency and performance by transferring related data in groups. Furthermore, I am a primary contributor to the *SimFlex* project, which proposes statistically-rigorous computer system performance evaluation methodologies. As part of the *SimFlex* effort, I led the development of the *Flexus* full-system computer architecture simulation infrastructure. Flexus is now the primary infrastructure used in the advanced computer architecture courses at Carnegie Mellon, and has been adopted at several external academic and industrial research institutions. I have published numerous research papers on both these topics, including three in the International Symposium on Computer Architecture.

At Carnegie Mellon, I served as a teaching assistant for three semesters in graduate computer and multiprocessor architecture courses, and have presented guest lectures in these courses on several occasions. In addition, I have delivered tutorials on computer system performance evaluation methodology at the International Symposium on Computer Architecture and International Symposium on Microarchitecture.

I believe my research experiences and interests complement the existing strengths of your department, and appreciate your consideration of my application. In addition to this letter, I have enclosed my curriculum vitae, statements of research and teaching interests, sample publications from each of the research areas I identify above, and a list of references. Please let me know if you require any other materials to assist in evaluating my application. I look forward to hearing from you.

Sincerely,

Thomas F. Wenisch

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