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EE Search Committee

Dear Electrical Engineering Search Committee:

I am currently a Ph.D. candidate working with Professor Dejan Marković in the Electrical Engineering Department at the University of California, Los Angeles. I expect to complete my dissertation by June 2015 and am interested in a tenure-track faculty position in your department.

My research interests and background broadly span the areas of energy-efficient DSP, computer architectures, embedded systems, high-performance computing, compressive sensing, post-CMOS device development and modeling, and neuromorphic engineering. My dissertation, entitled *An Energy-Efficient Sparse-BLAS Coprocessor Using STT-MRAM*, proposes an architecture for improving the energy-efficiency and performance of sparse linear algebra in SoCs that utilizes post-CMOS memory technologies. Recently, I presented the foundations of my dissertation work at the 22nd ACM/SIGDA International Symposium on Field-Programmable Gate Arrays (FPGA'14) in Monterey, California, and to the corporate management of MediaTek in August of 2014 as a finalist in the 2014 MediaTek Fellowship.

I am especially interested in fostering collaborative relationships not only between faculty in different areas of Electrical and Computer Engineering, but also in a number of other departments as well. My Ph.D. work—improving the energy-efficiency of sparse linear algebra by over two orders of magnitude—has attracted collaborators from the engineering, physics, and mathematics departments at UCLA, as well as the engineering, physics, and neuroscience departments at Stanford, UC Irvine, the University of Minnesota, and KU Leuven. Additionally, my work has resulted in five journal publications, seven conference publications, and three US patents.

I also wish to teach courses at both the graduate and undergraduate levels that involve significant design projects. My own experience, having been a teaching assistant at both UCLA and UC Berkeley, has suggested that the best way to develop intuition and master a subject is through experimentation, which is why I would like to design new courses that engage students with hands-on experiences. For my interactive lecture style and dedication to my students, I was awarded the *2013-2014 Henry Samuelli Excellence in Teaching Award* from UCLA while I served as a teaching assistant and lecturer for EEM216A. I am also committed to involving students in research and have supervised fourteen graduate students and four undergraduate research assistants while at UCLA.

My applications materials, including curriculum vitae, statement of research and teaching interests, and representative publications, are enclosed. You can also obtain updated versions of my application materials from my webpage: <http://rdorrance.bol.ucla.edu>. Please let me know if you would like me to provide any additional information. I can be reached via e-mail at [rdorrance@ucla.edu](mailto:rdorrance@ucla.edu) or by phone at (619) 251-1871.

Thank you very much for your consideration.

Sincerely,

Richard Dorrance