CURRICULUM VITAE

NAME: Dennis Sylvester

TITLE: Professor

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CURRENT POSITION: Full Professor at EECS Department, Faculty of Engineering, University of Michigan, Ann Arbor

EMPLOYMENT HISTORY

- Professor, University of Michigan, Ann Arbor (2000 – present)
- Co-founder, Ambiq Micro, Austin, TX (2010) - Board of Directors, 2010-2012
- Visiting Professor, Nanyang Technological University, Singapore 2013 – 2014
- Visiting Associate Professor, National University of Singapore 2006 – 2007
- Sr. R&D Engineer, Synopsys, Inc., Mountain View, CA 1999 –2000

ACADEMIC QUALIFICATIONS

- University of California, Berkeley, Berkeley, California
    - Ph.D. Electrical Engineering, 1999
    - M.S. Electrical Engineering, 1997
- University of Michigan, Ann Arbor, Ann Arbor, Michigan
    - B.S. Electrical Engineering, 1995 summa cum laude

RESEARCH INTERESTS:

- Low power integrated circuit design and design automation
- Variation-tolerant circuit design styles
- Near-threshold computing systems
- Millimeter-scale computing systems

LIST OF 5 MOST SIGNIFICANT PUBLICATIONS IN THE PAST 3 YEARS RELEVANT TO THE PROPOSAL

- G. Kim, Y. Lee, Z. Foo, P. Pannuto, Y-S. Kuo, B. Kempke, M.H. Ghaed, S. Bang, I. Lee, Y. Kim, S-H. Jeong, P. Dutta, D. Sylvester, and D. Blaauw, “A millimeter-scale

wireless imaging system with continuous motion detection and energy harvesting," IEEE Symposium on VLSI Circuits, 2014.

- Z. Li, Q. Dong, M. Saligane, B. Kempke, L. Yao, Z. Zhang, R. Dreslinski, D. Sylvester, D. Blaauw, and H-S. Kim, "A 1920×1080 30fps 2.3TOPS/W stereo depth processor for energy-efficient autonomous navigation of micro aerial vehicles," accepted for publication in IEEE Journal of Solid-State Circuits.
- Wootaek Lim, Inhee Lee, Dennis Sylvester, David Blaauw, "Battery-Less, sub-nW Cortex M0+ Processor with Dynamic Leakage-Suppression Logic," IEEE International Solid-State Circuits Conference (ISSCC), February 2015
- S. Bang, J. Wang, Z. Li, C. Gao, Y. Kim, Q. Dong, Y-P. Chen, L. Fick, X. Sun, R. Dreslinski, T. Mudge, H. S. Kim, D. Blaauw, and D. Sylvester, "A 288μW Programmable Deep-Learning Processor with 270KB On-Chip Weight Storage Using Non-Uniform Memory Hierarchy for Mobile Intelligence," IEEE International Solid-State Circuits Conference, 2017.
- D. Jeon, M. Henry, Y. Kim, I. Lee, Z. Zhang, D. Blaauw, and D. Sylvester, "An energy efficient full-frame feature extraction accelerator with shift-latch FIFO in 28nm CMOS," IEEE Journal of Solid-State Circuits, pp. 1271-1284, May 2014.

PATENTS

38 patents issued, licensees include ARM, Ambiq Micro, Tela Innovations. Examples:

- A. B. Kahng, P. Gupta, D. Sylvester, J. Yang, "Method for correcting a mask layout," US patent 7,149,999, December 12, 2006.
- M. Seok, D. Sylvester, D. Blaauw, S. Hanson, G. Chen, "Reference voltage generator having a two transistor design," US patent 8,564,275, October 22, 2013.

SCIENTIFIC AWARDS

- Top Contributing Authors, IEEE International Solid-State Circuits Conference, named in top 10 authors in 2004-2013 timeframe
- 2011 IEEE Fellow "for contributions to energy-efficient integrated circuits"
- Distinguished Paper Award, IEEE Security and Privacy Symposium, top overall paper among 413 submitted and 55 accepted papers, 2016
- 2005 Semiconductor Research Corporation Inventor Recognition Award
- 2000 Beatrice Winner Award at the International Solid-State Circuits Conference

SUMMARY OF MOST RELEVANT RESEARCH OUTCOMES FROM ALL PREVIOUS GRANTS

Being affiliated to the University of Michigan, he has executed a wide range of projects. A few recent ones are: MARCO and (DARPA) "Circuits for spin-based devices" C-SPIN center (1/15/13 – 10/31/17, $766,400). DARPA "Energy efficient 3D near-threshold computing systems for future embedded applications," (10/19/12 – 3/18/14, $1,528,161), SRC "Shortstop: Fast power supply boosting for energy-efficient high performance processors," (8/1/12 – 7/31/15, $360,000), NSF "Reclaiming Moore's Law through Ultra Energy Efficient Computing," (08/01/2009 – 07/31/2014, $2,778,507).