A 45-minute Short Course on Artificial Intelligence and Image Analysis

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of Electrical and Computer Engineering
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MSEE 112

Zoom: https://purdue-edu.zoom.us/j/91815411880 ~ Meeting ID: 918 1541 1880

Abstract
This talk will feature two families of machine learning, the diffusion network and the transformer. First the two basic methodologies will be introduced from first principles. Second, two developments from the Virginia Image and Video analysis laboratory will be described. A diffusion method for multiplicative noise will be outlined. And, a special-purpose transformer for recognizing human activity from videos will be explained. The talk will conclude with recommendations regarding research in artificial intelligence.

Bio
Scott T. Acton is the Lawrence R. Quarles Professor and Chair of Electrical and Computer Engineering at the University of Virginia. He is also appointed in Biomedical Engineering. For the previous three years, he was Program Director (and then acting Deputy Division Director) in the Computer and Information Sciences and Engineering directorate of the National Science Foundation. He received the M.S. and Ph.D. degrees at the University of Texas at Austin and the B.S. degree from Virginia Tech. Professor Acton is a Fellow of the IEEE "for contributions to biomedical image analysis." Professor Acton's laboratory at UVA is called VIVA – Virginia Image and Video Analysis. They specialize in biological/biomedical image analysis problems. Professor Acton has over 400 publications in the image analysis area including the books *Biomedical Image Analysis: Tracking and Biomedical Image Analysis: Segmentation.* He was the 2018 Co-Chair of the IEEE International Symposium on Biomedical Imaging. Professor Acton was Editor-in-Chief of the *IEEE Transactions on Image Processing* (2014-2018).

Hosts
Associate Professor Fengqing Maggie Zhu, zhu0@purdue.edu, 765 496 0407
Distinguished Professor Edward Delp, ace@purdue.edu, 765 494 1740

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