Guest speaker series
Internet of Things for Engineers
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FPGAs…*What* are they, *How* do they work, *What* do we do with them today, and *Where* will they go tomorrow?

Field Programmable Gate Arrays (FPGAs) are reconfigurable integrated circuits that can be programmed using C-like languages to perform an unlimited number of different tasks at low cost. FPGAs are used in nearly every industry: aerospace and defense, telecommunications, automotive, high-speed computing, and medicine to name a few. This talk will introduce how FPGA devices are made, how they work, and how they can be programmed. In addition, the current state of FPGA research will be introduced as well as a discussion on where this research will take us tomorrow.

Biography:

Thomas Farmer is an Associate Professor of Practice at the University of Pennsylvania, holding a joint appointment in the Computer and Information Science (CIS) Department and the Electrical and Systems Engineering (ESE) Department within the School of Engineering and Applied Sciences at the University of Pennsylvania. With a background in computer science and computer engineering, he teaches computer architecture courses for the CIS Department, as well as circuits, transistors, and high-frequency RF design courses for the ESE Department at both undergraduate and graduate levels.

Thomas serves as the program director for the Masters in Computer and Information Technology (MCIT) Online Program at Penn and has been an instructor in the Online MCIT program since its inception. The MCIT Online Program is a pioneer graduate program that is completely online and caters to students with no prior computer science background. MCIT Online currently has over 950 graduates and more than 1800 enrolled students.

Before coming to Penn in 2012, Thomas completed his PhD in Computer Engineering at George Washington University and pursued two post-doctoral fellowships through ORAU and the National Research Council at the US Army Research Laboratory in Adelphi, MD. Before returning for his PhD, Thomas worked as a professional software developer at AT&T Laboratories in Middletown, NJ, for seven years. Thomas lives in the Princeton area of NJ with his wife and two daughters. In addition to teaching at Penn, he and his family are currently restoring a 120-year-old Victorian house to its original glory and hope to live there for all the years to come!

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