

***Practical applications of Operational Modeling and
Statistical Machine Learning ***

Dev Pillai

Abstract:

Semiconductor manufacturing is a constantly changing and dynamic environment. Now, more than ever before, a broad set of new manufacturing challenges driving increased production agility, time to market requirements, process & production control complexity, cost optimization, and design for peak operational efficiency, must each be proactively addressed and resolved.

Intel utilizes a broad portfolio of enabling technologies that includes mathematical optimizations, simulation modeling, machine learning & data mining to solve highly-complex technical and business issues and constraints across its manufacturing and engineering chains. New capabilities, driven via the company's research and development roadmaps are tightly synchronized to high-volume manufacturing ramp dates for maximum effectiveness.

The talk will explore how different enabling technologies referenced above are used to solve complex problems relating to production speed, equipment and process control effectiveness, and cost reduction, while ensuring manufacturing agility and operational flexibility are preserved and factory designs are extendible and scalable.

Biography:

Dev Pillai is Intel Fellow and Director of the Operational Decision Support Technology group in the Logic Technology Development group at Intel. Dev is Intel's first fellow whose technical expertise spans factory simulation & robotics automation. Intel fellows represent the highest levels of technical achievement in the company.

His team play pivotal roles in the development and proliferation of dynamic factory modeling, mathematical optimization and other advanced factory automation and information technology solutions across Intel's wafer fabrication, sort, assembly, and test development and high-volume factories world-wide. He has been honored many times by his industry peers as one of the most influential engineers who defined the vision and industry direction for large-scale factory automation in 300mm semiconductor manufacturing.

Dev has published over 90 technical papers in IEEE, ISSM, SME, JES, IIE and SEMI publications on advanced manufacturing topics. He is also a frequently invited technical speaker at leading universities around the world. He has also authored chapters in the Handbook of Semiconductor Manufacturing Technology (published by Marcel Dekker) and in the McGraw Hill Encyclopedia of Science and Technology. He has one U.S patent pending.

Dev has a BS in mechanical engineering from National Institute of Technology, Calicut, India, a MSIE specializing in computer aided processes from Arizona State University, and a Masters in Business Administration.

/More bio details can be obtained from: /

<http://www.intel.com/pressroom/kits/bios/pillai.htm>