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CAREER OBJECTIVES:

To empower organizations with analysis and learning tools for designing, experimenting with, implementing, and accurately measuring the impact on performance of capacity plans, production processes and operational policies.

EXPERIENCE

Simulation Architect, Imagine That, Inc. (2008 to 2012, 2014 to present)

- Chief architect and developer of several key features in ExtendSim™, one of the leading commercial simulation software packages:
 - Advanced Resource Management subsystem - This feature enables users to accurately represent and quantify the impact on performance of the behaviors and management of resources in complex systems. Used the ExtendSim relational database to enable the externalization in other applications, e.g., Excel, Oracle, SQL Server, etc., of the definition and configuration of resource requirements, organizational relations, properties, and quantities.
 - Self-hosting service application - The technology used in this application has enabled Imagine That, Inc. to create a new product for generating revenue. It uses the Windows Communication Foundation (WCF) framework to provide customers with services for running the ExtendSim application on a remote server from client machines without having to locally install ExtendSim software.
 - Reports Manager - This is the primary simulation reporting feature for all ExtendSim products. It provides users with a filtering-based interface to create and access custom output reports for a simulation model and conditionally track simulation events during simulation runs in order to validate and debug simulation models.
- Developed and implemented enhancements to several existing features in the ExtendSim software including:
 - Data Import Export block - Designed, developed, and implemented new features to:
 - Enable connections between the ExtendSim internal database and Oracle databases using COM DLL.
 - Import and export ExtendSim internal database relations and data to XML format in external files.
 - Import into and export from ExtendSim entire ADO and XML databases with a single mouse-click.
 - Import and export Excel data tables and named ranges.
 - Excel simulation database add-in - This VBA Excel add-in enables users to externally manage relations and data in simulation model databases within the Excel environment.
 - Scenario Manager - Designed, developed and implemented new enhancements to the feature that enables users to create a design of experiments for a simulation model using combinations of values for different factors within the structure of a model and its associated database tables.
- Implemented bug fixes and enhancements to several of the building blocks in the continuous, discrete-event and rate libraries of the ExtendSim product suite.
- Provided daily email and phone based technical support to a worldwide customer base.

Sr. Industrial Engineer, iPhone Operations Engineering, Apple Inc. (Jan 2012 to March 2013)

- Provided iPhone Operations managers and engineers with analysis tools to quantify the impact of different factory configurations, equipment and labor quantities, operational policies and rework rates on factory capacity and performance. Developed these analysis tools using a combination of discrete-event simulation applications, Excel, JMP, and R. Created scripts to integrate the functionality of these tools using Apple Script, VBA, and JSL.
- Provided iPhone factory operations managers with equipment performance reports that were used in the factories on a daily basis to assess the health of automated testing equipment used in the backend of iPhone manufacturing lines. Created scripts in JMP, Excel VBA and AppleScript to automate the generation of these reports by querying test results stored in factory databases.
- Created scripts to automate the data mining of iPhone test results to search for patterns to explain how functional failures on iPhone customer returns were not being detected in the automated test lines of the iPhone factories.

Sole Proprietor, Horizon Systems Balancing, LLC (1998 to present)

- Provided major corporations in several different industry sectors with modeling and analysis tools to precisely measure the impact on cycle-time, throughput, inventory levels, resource utilization and operating costs of proposed changes to operational policies, production capacity, physical layouts and organizational structures. These tools were used to make equipment purchase, headcount, automated test line design and layout, airplane layout, and resource allocation decisions for production managers and design engineers.
- Developed and implemented a framework that enabled a Washington, DC based utilities consulting firm to provide a consortium of utility companies with a web-based mechanism to remotely define scenarios and run simulations to measure the impact on costs and customer service for different asset management strategies.

Sr. Industrial Engineer, Intel Corporation (2000 to 2006)

- Technical lead on a team of industrial engineers that continuously provided factory and plant managers with quantitative analysis in support of mission-critical strategic, tactical and operational capacity and policy decisions at Intel's 300mm high-volume production facility in New Mexico. Independently designed, developed, and validated a whole factory simulation model and an ancillary suite of Excel-based tools to support these analyses.
- Key technical contributor to the Intel factory network cycle-time reduction team. Used the whole factory simulation model to validate and compare the impact of several different WIP management policies being used across the factory network on factory cycle-time and inventory levels. Used the whole factory simulation model to invent a new WIP management policy based on reducing arrival rate variability at process operations. Intel was able to implement this policy within their factory automations systems and observe 10% or more reductions of factory cycle-times.
- Independently designed, implemented, and validated an Excel-based whole factory capacity planning and analysis tool that was used to determine equipment requirements and output capabilities for high-volume factories throughout the Intel factory network.

Operations Research Scientist, Center for Adaptive Systems Applications, Inc. (1995 to 1998)

- Created customized simulation models for Citicorp's card services division to provide them with a capability for assessing the impact on call response-times of different worker schedules and skill levels subject to various call-volume scenarios.
- Developed a system dynamic supply-chain model for Monsanto's agribusiness division enabling them to quantify the relationship between system structure, time-to-market, competition, market share and profitability.

Technical Staff Member, Los Alamos National Laboratory (1990 to 1995)

- Designed, developed and validated several discrete-event and continuous simulation models that were used to provide private corporations in the textile, aerospace and semiconductor industries with critical decision support for the design, analysis, and performance assessment of system policies, operational procedures and capacity plans. Created the recursive executable cell, an architectural framework for representing complex systems, to facilitate the design and effectiveness of these simulation models.
- Co-designed and implemented an automated software monitoring and reporting system to detect configuration-based security holes in a classified computing network consisting of thousands of computing nodes.
- Designed and implemented network application and user-interface software to control the secure transfer of classified documents over a laboratory-to-laboratory Department of Energy network.

Software Specialist, Digital Equipment Corporation (1987 to 1990)

- Designed and implemented all of the software-based enhancements for the All-in-One electronic mail system at Los Alamos National Laboratory. Created a standalone software application to automate message archiving and associated file transfers between VMS and IBM operating systems.
- Designed and implemented equipment control software for Intel Corporation's Fab 7 production facility in New Mexico.

EDUCATION

- **M.S., Geophysics** (minor in theoretical & applied mechanics), Cornell University, Ithaca, NY, 1979
- **B.S., Geological Sciences** (minor in philosophy), Lehigh University, Bethlehem, PA, 1977

REFERENCES

Available upon request.