Xi Guo

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Apply OR/IE, modeling/simulation and optimization techniques for the improvement and optimization of complex process, logistics, automation, supply chain, engineering IT, etc.

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**SUMMARY**

* Master degrees in system engineering and mechanical engineering
* More than 8 years of experience on modeling/simulation and strong expertise in modeling/simulation for large-scale system and complex process. And demonstrated success in projects for logistics, transportation/network, material handling, and manufacture process improvement.
* Expertise skills in agent-based simulation, discrete-event simulation, and system dynamics simulation with modeling tools Anylogic, Arena, Witness, Plant Simulation, VenSim, and programming languages (Java, etc.).
* Proficient in encoding various operation issues such as schedule / planning, resource, capacity, business rules, reliability, etc. and integrating the process performance metrics into simulation model and its outputs.
* Demonstrated strength on analytical thinking for large system and complex process optimization with simulation scenarios running, data analysis, bottleneck analysis, system balance, capacity / resource utilization, performance forecasting, etc.
* Proven experience on operation analysis with various tools (VBA, MS Access/Excel, Minitab, MATLAB, SQL, etc) and on software development for decision support system and analytical tools. Demonstrated skills in data mining, data analysis, statistics, etc.
* Recognized ability in leadership, organizing, coordination, team work, presentation, and project management.

**CAREER HISTORY**

**Stream Systems** 2014 ~ 2015

*Simulation modeler*

Modeling simulation on pipeline system for capacity validation, cost saving, debottleneck, quality improvement, etc.

* Enbridge network project.
* KM storage terminal project

**Finning Canada** 2013 ~ 2014

*Reliability Engineer*

Providing reliability engineering support for mining/oil and gas production

**Luxmux Technology Corporation** 2013 ~ 2013

*Mechanical Engineer*

Designing and modeling/simulation of sensor for oil and gas production

**Caterpillar Inc.** 2012 ~ 2012

*Manufacture engineer, modeling/simulation*

Modeling/simulation and optimization of process of assembly, sub assembly production, logistic, transportation, and balance supply and production:

* Supply chain visualization with bar-code data.
* WTS assembly production line throughput validation and resource utilization analysis.
* LMT subassembly line throughput validation and workforce optimization.
* Paint line throughput validation, buffer size/lead time analysis, logistic control optimization, and transportation requirement calculation.
* Training new engineers for modeling/simulation.

**Canadian Pacific Railway** 2006 ~ 2011

*Service design manager, system/network modeling/simulation*

Worked on balancing local service operation project and balancing network operation project with system modeling, process simulation, performance analysis, and operation optimization

* + Defined input, variable, and output for the operation process model and simulation data requirement.
  + Developed simulation models for local service system and network system which includes car requirement, car allowance, train schedule, transit time, car dwell time, fleet size, car mile, GTM, train utilization, etc.
  + Applied ARENA to build simulation model and used real data to verify and validate the model.
  + Developed VBA for processing data as simulation input and for data analysis.
  + Built standard simulation model for all local service system.
  + Introduced data-driven network and local service simulation.
  + Developed simulation scenarios and simulation running plan for forecasting system performance and operation optimization analysis.

**Beijing Bowei Airport Support Ltd** 2004 ~ 2006

*System Engineer, modeling/simulation*

Worked on process modeling and system optimization for Beijing Capital International Airport’s passenger and baggage handling system

* + Defined study variables for operation process and system operation.
  + Developed mode to simulate the process with WITNESS which include passenger arrival, flight schedule, service time, passenger wait time, luggage late-delivery rate, etc. and compare simulation results with real operation for verification and validation of the model.
  + Developed visual display for the process and main system data.
  + Developed DSS (Decision Support System) with VBA and MS Excel.
  + Analyzed the data and evaluate the system performance, system capacity, sensitive factor, etc.
  + Reported the results in effective presentation for management.
  + Developed reliability/maintenance model for the baggage handing system.

**Bombardier Aerospace**  2001 ~ 2001

*Testing Engineer*

Worked on FBW simulator testing and data analysis/reporting

* Developed simulator test plan and scenarios for simulator verification and validation.
* Run and tested simulator to obtain data and applied MATLAB to analyze system dynamic performance in time and frequency domains (system identification, FFT, plot).
* Wrote report on the results and made conclusion.

**Shenzhen CIMC-TianDa Airport Support Ltd.**  1995 ~ 1998

*Sales Engineer / Project Manger*

Worked on technical support and bid/proposal preparation for the sales of aircraft passenger-boarding-bridge

* Reviewed and understand customer requirement and prepared compliance statement.
* Organized bidding documents and proposal preparation.
* Provided technical specification, technical advantages of product, material/component list, delivery schedule, etc.;
* Monitored and tracked contract implementation and coordinated among customer, subcontract, and internal departments for contract execution.

**Luoyang Bearing Research Institute**

*Mechanical Engineer*1990 ~ 1994

*Manufacture Engineer*1985 ~ 1987

Worked on bearing test rigs development: structure design, material selection, hydraulic system (loading, servo loading and lubrication) design, spindle-bearing system dynamic system modeling/calculating/analyzing, for the tests of certain bearings under certain conditions and environment;

Introduced test planning for verification and validation for the tested part’s endurance, fatigue, speed limitation, high and low temperature limitation, etc.;

Worked on testing data analysis, reporting and documentation;

Developed FEM modeling of high-speed spindle and ball bearing system including programming for calculation of natural frequencies of the system and testing its dynamic performance and analyzing results;

Designed bearing manufacturing process and evaluated process performance with asset utilization, parts waiting time, cycling time, etc.;

Developed models and simulation for recommendation to improving production line.

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**EDUCATION**

Vanier College 2002 ~ 2003

Computer programming

AEC

Concordia University 1999 ~ 2001

Aerospace engineering program, specialized in system engineering

M. Eng.

Luoyang Institute of Technology 1987 ~ 1990

Mechanical engineering, specialized in system control

M. Eng.

Luoyang Institute of Technology 1981 ~ 1985

Manufacture engineering

B. Eng.