
Senior Analyst – Subject Matter Expert – Team Lead

- Experience developing and explaining complex models and analysis that convert data to insight
- Proven talent for quickly learning new industries, markets and technologies as demonstrated by engagement with Public Utility Commission of Ohio and development of the Plant Screening Tool

Core Competencies

MATLAB	Python	Java
Expert in Excel/VBA	C/C++	SQL
Algorithm Design	Workflow Automation	Data Manipulation
Agent Based Modeling	Stochastic/Monte-Carlo Simulation	Financial and Economic Modeling

Professional Experience

Energy Ventures Analysis - Analyst 2011-Present

- *Agent Based Power Market Model (AURORAxmp)*
Sole analyst responsible for developing EVA's agent-based power market model. Discovered, cleaned and validated public and private data used as inputs to the model. Automated processes for updating input data as well as collecting and validating results. Provided documentation and presented model results to partners.
- *Public Utility Commission of Ohio; Case 10-2929-EL-UNC*
Researched and became expert in capacity market operations over 4 week engagement. Proposed and executed a novel method to estimate the fair capacity payment using EVA's agent based power market model. Provided both verbal and written testimony explaining and defending my method to the court. The court accepted my methodology with minor adjustments reducing AEP's proposed payments by 44% totaling over \$1 billion.
- *Predictive Regression Model*
Hired and managed technical summer intern to replace EVA's electricity demand forecasting model with a regressive model. Wrote specifications, proposed model design and presented results to partners. Designed and built the user interface to maximize maintainability and intuitiveness. Provided thorough documentation.

Pace Global - Analyst 2010-2011

- *Plant Screening Tool*
Designed and developed an agent based power market model for a key client. Learned VBA over the course of this engagement to meet clients need for an Excel based model. Delivered the model on time despite budgetary concerns and tight project deadlines. The resulting tool is highly valued due to its versatility and is currently being marketed to a wide selection of the company's customer base.
- *Risk Integrated Product Development*
Maintained and developed flexible MATLAB based stochastic series generators to feed a power market Monte-Carlo simulator. Worked with senior management and market experts to simulate variability in fuel and power demand by mapping Pace's qualitative market views to rigorous stochastic processes. Proposed and developed tools to automate quality control and simplify explaining the results to executive management and clients.
- *Web Crawler*
Designed and implemented a python based web crawler to gather regional historical weather data to support Pace's power market models.

Education

James Madison University 2006-2010

<i>Program</i>	<i>Program GPA</i>	<i>Degree Earned</i>
Quantitative Finance	3.6	B.S.
Mathematics	3.6	B.S.
Economics	3.5	B.S.
Computer Science	-	Minor

Professional Affiliations

American Statistical Association
Tau Kappa Epsilon Fraternity – Served as Treasurer, Recruitment Chair, Historian, Alumni Chair and Secretary
Pi Mu Epsilon Honors Fraternity – Served as Secretary
Consortium of Mathematics and its Applications (COMAP) - Participated in the annual international mathematic modeling competition