Guanji Hou, Ph.D.

Project Role: Senior Power System Engineer, Analytics, Testing

Affiliated Organization: Nexant

Job Title: Senior Power System Engineer

Relevant Job Experience:

- Dr. Hou has over 8 years of experience in the electric power industry, including research, software development, product testing, customer support, and consulting. He is an active participant in a number of research and development projects for Nexant's iHedge FTR Market Simulator (HEDGE), Grid360, Security Constrained Optimal Power Flow (SCOPE), and data manager (DATMAN). Dr. Hou has in-depth knowledge of the applications of OPF methods to system market operations and analysis and FTR allocations and auctions. He has also worked on research into methods for predicting competitor bid portfolios in a FTR auction.
- Dr. Hou currently is the lead developer for the data manager (DATMAN) software for the assembly of data from disparate sources. He is familiar with and utilizes data provided in the Common Information Model IEC 61968 and 61970 formats.
- He is expert in the Message Passing Interface (MPI) technology and its application in Nexant's software HEDGE and SCOPE. He has also been involved in new product development, client training and support of various Nexant products.
- Dr. Hou's areas of expertise include Power Engineering: Market operations and analysis, research, software development, and product testing and Solution Development: Supporting the design, delivery, and maintenance of critical software solutions.

Significant Accomplishments:
Midcontinent Independent System Operator (ISO), ERCOT, New York Independent System Operator (ISO) – iHedge FTR Market System (2012–Present)

- Dr. Hou supports a variety of clients in similar capacities. For example, he provides general customer support on software usage of iHedge and DATMAN. He offers off-site support and market deployment that includes evaluating the outcomes of FTR auctions and ARR allocations. He is a member of a QA team that conducted the end-to-end testing for ERCOT's upgrade of their iHedge FTR Market System. Dr. Hou investigates data anomalies including network topology, branch ratings, and impedances for ISO clients. He verifies results for FTR auctions and ARR allocations. He provides evaluations of warm/hot start capability for FTR Auctions. Guanji also researches and develops dynamic array allocation capabilities within iHedge and DATMAN. He assesses outcomes of identifying price indeterminacy in NYISO's TCC auctions. Dr. Hou also provided enhancement of global change functionality in DATMAN to meet NYISO's specific requirements
- Dr. Hou is a member of the team implementing the Active Network Management System (ANMS) for UK Power Networks (serving 8.3M connection points in the London and southeastern portions of England). His responsibilities include managing the CIM input data, power flow, and state estimation functions for the networks.

Education:

Ph. D., Electrical Engineering, Arizona State University, AZ

M.S., Electrical Engineering, South China University of Technology, Guangzhou, China

B.S., Electrical Engineering, South China University of Technology, Guangzhou, China

Professional Affiliations and Committee Memberships: None to report.