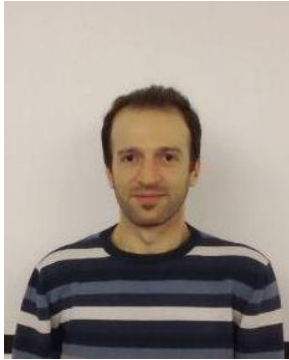


Yashar Sahraei Manjili



Research Summary

My PhD dissertation is on "Adaptive Intelligent energy control framework for electrical micro-grids based on energy market and solar energy forecast". My research will establish an adaptive framework to quantify and integrate the effects of renewable energy intermittency, energy market, policy decisions, and environmental effects into the grid. The goal is to demonstrate how control of energy flow in electrical microgrids will help improve efficiency of demand-response management, reduce electricity generation and consumption costs, as well as reduce quantifiable amounts of air pollution. The energy control framework includes artificial intelligence and data analytics approaches on large data-sets for renewable energy forecast plus a smart decision-making engine for energy management. Outcomes of this research can help conserve electrical energy, save environment, bring financial benefits for either the utility companies or the micro-grid owners, and improve the reliability of the power network itself.

Publications

Y. S. Manjili, M. Jamshidi, R.E. Vega, "Cost-Efficient Environmentally-Friendly Control of Microgrid using Intelligent Decision-Making on Storage Unit's Energy Exchange Rate", AutoSoft Journal, 2013. (Accepted and submitted for publication)

J. Nummikoski, Y. S. Manjili, R. Vega, and H. Krishnaswami, "Adaptive Rule For Solar Forecasting: Interfacing With A Knowledge-Base Library", 39th IEEE Photovoltaic Specialists Conference (PVSC 2013), Tampa Bay, FL, 2013.

M. Niknamfar, Y. S. Manjili, M. Shadaram, M. Jamshidi, "Cost Effective ROF Communication System for CATV Channels over WDM Network and Fuzzy Modeling of the System", International Conference on Computing, Networking and Communications (ICNC), San Diego, CA, USA, 2013

M. Niknamfar, Y.S. Manjili, M. Shadaram, M. Jamshidi, "Fuzzy modeling of an ROF communication system for CATV channels over DWDM network", ABES 2012, UTSA, TX. (Best Paper Award winner)

Y. S. Manjili; A. Rajae; M. Jamshidi; B. Kelley, "Intelligent Decision Making for Energy Management in Microgrid with Air Pollution Reduction Policy", 7th International Conference on System of Systems Engineering (SoSE), Genoa, Italy, 2012.

Y. S. Manjili; A. Rajae; M. Jamshidi; B. Kelley, "Fuzzy Control of Electricity Storage Unit for Energy Management of Micro-Grids1", World Automation Congress (WAC), Puerto Vallarta, Mexico, 2012.

Y. S. Manjili; A. Rajae; B. Kelley; M. Jamshidi, "Fuzzy Control of Storage Unit for Energy Management in Micro-Grids" University of Texas at San Antonio College Of Science Conference, UTSA-COS 2011 (Best paper award winner)

Y. S. Manjili, M. Jamshidi, "Online Monitoring of Industrial Plants Based on Independent Components Analysis", UTSA ABES student conference, (UTSA ABES 2011) San Antonio, TX, USA, April 2011.

Awards

Recipient of Valero Energy Foundation Multidisciplinary Award outstanding academic achievements. 2013

Recipient of graduate students' development award for ICNC 2013 international conference at San Diego, CA.

Supported by TSERI fund for research on control and energy management of electrical microgrid networks based on solar energy forecast at the UTSA. 2012

Best paper awardee for article "Fuzzy modeling of an ROF communication system for CATV channels over DWDM network", ABES 2012, UTSA, San Antonio, TX.

CPS energy fund recipient for research on simulation and control of Smart-Grid Networks and energy management in distributed generation systems. 2011

Best poster awardee for article "Fuzzy Control of Storage Unit for Energy Management in Micro-Grids", COS 2011 research conference, UTSA, San Antonio, TX.

Supported by State Energy Conservation Office (SECO) fund for the project of design and installation of solar test bed for renewable energy studies at the University of Texas at San Antonio (UTSA). 2010