Seyyed Hamid Elyas
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Virginia Commonwealth University, ECE Department

Education

Virginia Commonwealth University, Richmond, VA.   Aug.2014- Present

PhD Student, Electrical Engineering, GPA: 4.0/4.0
Thesis: Synthetic modeling of power grids based on statistical analysis
Advisor: Dr. Zhifang Wang

University of Texas at El Paso, El Paso, TX.   Aug.2013-May. 2014

PhD Student, Electrical Engineering, GPA: 4.0/4.0

Semnan University, Semnan, IRAN.   Oct. 2011

MS, Electrical Engineering, GPA: 3.8/4.0

Thesis: Maintenance scheduling of generating units in restructured power systems,

Advisor: Dr. Akbar Froud

Imam Khomeini International University, Qazvin, IRAN.   Aug. 2008

BS, Electrical Engineering, GPA: 3.6/4.0

Thesis: Modeling and control of servo systems using PID controller.

Advisor: Dr. Mohamad Sarvi

Fields of Interest

Synthetic power grid modeling
Electricity markets and economics
Economic load dispatch
Maintenance scheduling of generating units
Integration of renewable energies
Unit commitment in power system operation

Publications

Journal Papers
1- **S. H. Elyas,** Z. Wang, "Improved Synthetic Power Grid Modeling with Correlated Bus Type Assignments", *IEEE Transaction on Power Systems*, 2016. (available in : http://ieeexplore.ieee.org/abstract/document/7763878/)
2- **S. H. Elyas,** A. akbari, H. chitsaz." A Novel Method for Maintenance Scheduling of Generating Units Considering the Demand Side*". International Journal Electrical Power and Energy Systems (IJEPES), ELSEVIER*, vol. 51, pp. 201-212, 2013.

Conference Papers
3- **S. H. Elyas,** Z. Wang, R. J. Thomas, "On the Statistical Settings of Generation Capacities and Dispatch in a Synthetic Grid Modeling" *IREP, 2017* (Accepted)
4- Z. Wang, **S. H. Elyas**, " On the Scaling Property of Power Grids", *50th Hawaii International Conference on System Sciences (HICSS)*, 2017.
5- M.H. Athari, **S.H. Elyas**, Z. Wang"Time-Series Analysis of Photovoltaic Distributed Generation Impacts on a Local Distributed Network". *PowerTech, IEEE Manchester. UK,* 2017. (Accepted, to appear)
6- **S. H. Elyas,** Z. Wang, "A Multi-objective Optimization Algorithm for Bus Type Assignments in Random Topology Power Grid Model". *49th Hawaii International Conference on System Sciences (HICSS)*, 2016.
7- **S. H. Elyas,** Z. Wang" Statistical Analysis of Transmission Line Capacities in Electric Power Grids", *IEEE, PES, Innovation Smart Grid Technologies Conference (ISGT),* 2016.
8- Z. Wang, **S. H. Elyas,** R. J. Thomas," Generating Synthetic Electric Power System Data with Accurate Electric Topology and Parameters" *PowerTech,* 2016.
9- Z. Wang, **S. H. Elyas,** R. J. Thomas," A Novel Measure to Characterize Bus Type Assignments of Realistic Power Grids" *PowerTech,* 2015.

10- **S.H. Elyas,** P. Mandal," A New Hybrid Optimization Algorithm for Solving Economic Load Dispatch Problem with Valve-point Effect" *North American Power Symposium (NAPS)*, 2014.

11- **S.H. Elyas,** S. Babaeinejad, A. Akbari Froud."A Novel Approach for Maintenance Scheduling of Generating Units in Restructured Power System*". IEEE, PES, Innovation Smart Grid Technologies Conference (ISGT)*, 2011.

12- S. Babaeinejad, **S. H. Elyas,** A. Akbari Froud."A Reformed Capacity Subscription Market in Restructured Power Systems". *IEEE, PES, Innovation Smart Grid Technologies Conference (ISGT),* 2011.

13- S. Babaeinejad, **S. H. Elyas,** ."A Hybrid CLONAL Selection Algorithm with PSO for solving Economic Load Dispatch with Valve-Point Effects". *16th IEEE Mediterranean Electrotechnical Conference (MELECON),* 2012.

14- M. Jafari, A. M. Shahri, **S. H Elyas,**" Optimal tuning of Brain Emotional Learning Based Intelligent Controller using Clonal Selection Algorithm" *3th International Conference Computer and Knowledge Engineering (ICCKE),* 2013 .

Presentations and Talks

Paper Presentation, IEEE, PES, Innovation Smart Grid Technologies Conference (ISGT), Minneapolis, Minnesota, 2016. "Statistical Analysis of Transmission Line Capacities in Electric Power Grids"**.**

Research Presentation, Dominion Virginia Power Company, Richmond, Virginia, 2016. "Time-Series Analysis of Photovoltaic Distributed Generation Impacts on a Local Distributed Network".

Paper Presentation, IEEE, PES, Innovation Smart Grid Technologies Conference (ISGT)—India, 2011. "A Novel Approach for Maintenance Scheduling of Generating Units in Restructured Power System"

Honors and Awards

Dean's Early Research Initiative program scholarship, Virginia Commonwealth University	Jun. 2016
VCU electrical and computer engineering department travel award	Aug 2016
VCU school of engineering graduate student travel award	Sep 2016

Professional Associations and Service

Member
- IEEE Power & Energy Society

Reviewer for Journals
- IEEE Transactions on Power Systems
- IEEE Transactions on Smart Grid
- IEEE Journal on Emerging and Selected Topics in Circuits and Systems
- International Transactions on Electrical Energy Systems (ETEP)
- Engineering Optimization journal (Taylor & Francis Group)
- Journal of Modeling in Engineering

Professional Experience

Research Experience:

1- Synthetic Data for Power Grid R&D

(Sponsored by the U.S. Department of Energy DOE through the ARPAE program)   Aug 2014-present
- NYISO, FERC and WECC topology analysis
- Mining, processing, statistical and probability analyses of realistic grid data.
- Electrical and Topology analysis of real world power systems.
- Large-scale power grid modeling

2- Integration of Renewable Energies in Power Grids.   May. 2016-present

(Sponsored by the U.S. Department of Energy (DoE) through the Consortium for Electric Reliability Technology Solutions (CERTS) Program)
- Impact analysis of integrating renewables in transmission and distribution systems
- Modeling, simulation and analysis of power distribution systems, distributed generation, demand response and microgrids
- Proposing a method to determine maximum allowable distributed generation injection
- Maximum penetration based on system stability.
- Cost-benefit analysis of renewable integration and energy storage systems.

3- Maintenance Scheduling of Generating Units in Restructured Power System   Aug 2009- July.2013
- Restructuring in power system.
- Demand response management.

- Electricity market.

4- Economic Load Dispatch Problem with Valve-point Effect (University of Texas at El Paso)
- Cost minimization in power grid generation.   Aug. 2013-May.2014
- Power system optimization.
- Emission reduction in power plant.

Work Experience:
1- DIT. Co, Tehran.   Feb. 2011 – Aug. 2013
Analysis and Implementation of Communication Protocols in Telemetry Systems.

(This project has been executed under supervision of Tehran Regional Electric .Co)
- Analysis of the main communication protocols of Telemetry Systems such as IEC 101 and IEC 103
- Configuration of RTU systems (Remote Terminal Unit) in SCADA systems
- Test of telemetry system and remote control of high voltage substations

2- Modj Gostar.Co, Tehran.   April. 2010-Feb. 2011
Design, simulation (with ETAP) and installation of Distributed Generation (DG) systems
- Conducted studies on technical specifications of available medium-sized diesel generators
- Modelled and simulated new DG systems connected to the existing distribution feeder using ETAP
- Performed load flow and short circuit analyses for the upcoming DG
- Sized cables and transformers and designed switchgear for new electric system

Teaching Experience:
1- Electrical and Engineering Department, Virginia Commonwealth University(VCU), Richmond, VA (Fall, 2016)
- Teaching assistant: SUST & EFFICNT POWER SYSTM

2- Electrical and Engineering Department, University of Texas at El Paso(UTEP), El Paso, TX (Spring 2014)
- Teaching assistant: Operations Research-II

Software and Other Skills

Programming Languages: MATLAB, Python, C++

Electrical Engineering Software: PSS/E, RTDS, ETAP, PowerWorld, MATLAB Simulink

Other Skills: Microsoft Office Software (Word, Excel, PowerPoint, Visio), AutoCAD, Intermediate working experience on Siemens PLCs and AVR Microcontrollers

Reference

1- Zhifang Wang, PhD

Assistant Professor at Virginia Commonwealth University

2- Masoud Barati, PhD

Assistant Professor at University of Houston

3- LinkedIn

https://www.linkedin.com/in/seyyed-hamid-elyas-17140639/

4- Google Scholar

https://scholar.google.com/citations?user=UKogiN8AAAAJ&hl=en