

Predictive Model For Power Outages

Data Analytics For Smart Grid Reliability

Vivian Sultan, Ph.D.

Professor of Information Systems and Business Management

California State University, Los Angeles

College of Business and Economics

5151 State University Dr., ST F603

Los Angeles, CA 90032-8126

Email: vsultan3@calstatela.edu



CAL STATE LA |

CALIFORNIA STATE UNIVERSITY, LOS ANGELES

About Vivian Sultan, PhD

Digital Accelerator at Southern California Edison (SCE) and a Professor of Information Systems and Business Management at California State University (CSULA). Dr. Sultan holds a PhD in Information Systems and Technology from Claremont Graduate University. She is a certified professional in Supply Management with experience in account product management, operations, and automated system projects development. Prior to her current role, Dr. Sultan served as a Senior Analyst at Edison Materials Supply, an Account Product Manager at the Walt Disney Studios. Her publications and research focus on energy informatics and the digital transformation within supply chains.



Publications

- “A Predictive Model to Forecast Power Outages,” Proceedings of the 10th International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies.
- “An Inclusion of Electric Grid Reliability Research through the Enhanced Energy Informatics Research Framework,” Proceedings of the 8th International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies.
- “A Spatial Analytics Framework to Investigate Electric Power-Failure Events and Their Causes.” ISPRS International Journal of Geo-Information, 9(1), 54.
- “How May Location Analytics Be Used to Enhance the Reliability of the Smart Grid?” Inventions, 4(3), 39.
- “Electric Grid Reliability Research” Energy informatics Journal. Computer Science, 2(3).
- “Solving Electric Grid Network Congestion Problem with Batteries – An Exploratory Study using GIS Techniques,” International Journal of Smart Grid and Clean Energy, 7(2).
- “A Conceptual Framework To Integrate Electric Vehicles Charging Infrastructure Into The Electric Grid,” International Journal of Smart Grid and Clean Energy, 6(3).
- “Analysis Framework to Investigate Power-Failure Events and Their Causes?” Proceedings of the International Conference on Data Science, Las Vegas, USA.
- “Which Grid Infrastructure Needs Utilities’ Immediate Attention to Reduce the Risk of Power Outages?” Proceedings of the International Conference on Data Science, Las Vegas, USA.
- “How May Location Analytics Be Used to Enhance the Reliability of the Smart Grid?” Proceedings of the International Conference on Scientific Computing, Las Vegas, USA.
- “Where Should a Utility Improve Tree Cutting to Reduce the Risk of Vegetation Coming into Contact with Power Lines?” Proceedings of the 9th International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies.
- “Is Power Outage Associated With Population Density?” Proceedings of the 9th International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies, Athens.

Publications – Cont'd

- “Geographic decision support systems to optimize the placement of distributed energy resources,” International Journal of Smart Grid and Clean Energy, 5(3).
- “Is California's aging infrastructure the principal contributor to the recent trend of power outage?” Journal of Communication and Computer, USA, 13 (5).
- "Exploring Geographic Information Systems To Mitigate America’s Electric Grid Traffic Congestion Problem,” Proceedings of the 4th International Symposium on Computational and Business Intelligence.
- “A Predictive Model to Forecast Customer Adoption of Rooftop Solar,” Proceedings of the 4th International Symposium on Computational and Business Intelligence.
- “Geographic Decision Support Systems To Optimize The Placement Of Distributed Energy Resources,” Proceedings of the 22nd Americas Conference on Information Systems.
- “Is California's aging infrastructure the principal contributor to the recent trend of power outage?” Proceedings of the 22nd Annual California GIS Conference.
- “A Conceptual Framework To Integrate Electric Vehicles Charging Infrastructure Into The Electric Grid,” International Journal of Smart Grid and Clean Energy, 6(3).
- “Electric Vehicles charging infrastructure integration into the electric grid considering the net benefits to consumers,” Proceedings of the 7th International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies.
- “Solving Electric Grid Network Congestion Problem with Batteries – An Exploratory Study using GIS Techniques,” International Journal of Smart Grid and Clean Energy, 7(2).
- “Electric Substation Emergency Disaster Response Planning through the use of Geographic Information Systems,” Proceedings of the 8th International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies.
- “Battery Storage Integration into the Electric Grid,” Proceedings of the 8th International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies.