

Recent Patents

1. Hadi Moradisizkoohi, Nour Elsayad and Osama Mohammed "A Family of Modular Quasi-Resonant Inverters", US 10,381,951 B1, Patent Awarded August 13, 2019.
2. Mohamad El-Hariri, Tarek Youssef and Osama Mohammed "Content-aware spoofed sensor measurement data detection in microgrids," US 10,362,056 B1, Patent Awarded, July 23, 2019.
3. Ahmed S. Mohamed, and Osama Mohammed, "Integrated Bidirectional Inductive/Conductive Electrical Apparatus," US 10,637,273 B2, Patent Awarded, April 28, 2020.
4. Nour Elsayad, Mehdi Shojaie and Osama Mohammed "A Power Electronic Building Block Using Series-Stacked Gallium-Nitride HEMTs," (US 10,284,092 B1) United States Patent and Trademark Office (USPTO), Awarded May 7, 2019.
5. Hany F. Habib, Tarek Youssef, and Osama Mohammed, "Methods and Techniques for Protection of Microgrid Energy Management System with Distributed Storage," (US 10,269,509 B1), United States Patent and Trademark Office (USPTO), Awarded April 23, 2019.
6. Nour Elsayad, Mehdi Shojaie and Osama Mohammed "Multi-Drain Gallium-Nitride Module with Multiple Voltage Ratings," (US 10,199,487 B1), United States Patent and Trademark Office (USPTO), Awarded February 5 2019.
7. Ahmed S. Mohamed, and Osama Mohammed, "Autonomous Two-layer Predictive Controller for Bidirectional Inductive Power Transfer in EV Applications," (US 9,987,937 B1), United States Patent and Trademark Office (USPTO). Awarded June 5, 2018.
8. Mohammed, et. Al., "A Flexible, Secure Energy Management System," (US 9,915,965 B2), United States Patent and Trademark Office (USPTO). Awarded Mar. 13, 2018
9. Mohammed, et. Al., "Sequence Hopping Algorithm for Securing GOOSE Messages," (US 9,894,080), United States Patent and Trademark Office (USPTO). Awarded Feb.13, 2018
10. Mohammed, et. al. "Systems and Techniques for Energy Storage Regulation," (US 9,735,601 B2), United States Patent and Trademark Office (USPTO). Awarded Aug. 15, 2017
11. Abla Hariri, Mohamad El Hariri, Tarek Youssef, and Osama Mohammed, "Systems and Methods for Electric Vehicle Charging Decision Support System", US Patent 10,507,738 B1, Awarded Dec. 17, 2019
12. Nour Elsayad and Osama Mohammed "A Three-Phase Inverter System using An Eight-Switch-Three-Phase Unfolder," US Patent 10,630,202 B2, Awarded April 21, 2020.
13. Ahmed Saad, Samy Faddel and Osama Mohammed "Systems and Methods for Providing Security in Power Systems," US Patent 10,686,810 B1 Awarded, June 16, 2019.
14. Hassan H. Eldeeb and Osama Mohammed "Condition Monitoring and Fault Detection in Electric Vehicles' Power-train with External Magnetic Flux Sensors," US Patent 10,686,394 B1, Awarded June 16, 2020.
15. M. M. Esfahani, Tarek Youssef, and Osama Mohammed. "Method and apparatuses for data integrity and security for communications in smart power systems", U.S. Patent 10,499,242, Awarded December 3, 2019.
16. Mohammad M. Esfahani and Osama Mohammed "systems and methods for

protecting against fault currents,” U.S. Patent 10,910,835 B1, Awarded February 2, 2021.

17. Mohammad M. Esfahani and Osama Mohammed “Secure Sequence Hopping Algorithm for Routable Communications in Smart Grids over Wide Area Networks,” Patent Filed May 2019.
18. Ahmed Saad and Osama Mohammed “Energy Cyber-Physical System Digital Twin Playground,” Patent filed May 2020.