



أنظمة الطاقة المتجددة الذكية القائمة على الذكاء الاصطناعي وخوارزميات التحسين



AGILE LEADERS
Training Center

02 - 06 Nov 2026
برشلونة

أنظمة الطاقة المتجددة الذكية القائمة على الذكاء الاصطناعي وخوارزميات التحسين

المرجع: 36247_82318 التاريخ: 02 - 06 Nov 2026 الموقع: برشلونة الرسوم: Euro 6500

Course Overview:

The course is designed to equip professionals with the latest skills and knowledge in the rapidly evolving field of renewable energy. This comprehensive training covers a broad spectrum of topics, including Renewable Energy Integration, Optimization Algorithms for Renewable Energy, Chaotic PSO PV System Modelling, and AI in Smart Grid Island Detection. Participants will gain hands-on experience in Intelligent Control for EMI Reduction, Energy Management for Hybrid Renewable Systems, and the integration of RES with MPPT by SVPWM. The course also delves into the complexities of Distributed Network Planning with Renewable Energy and User Interactive PV System Design GUI. With a focus on practical applications, attendees will learn about Micro-Grid Situational Awareness, AI, and ML for Smart Grids, and Short Term Load Forecasting Using ANN. By the end of this course, participants will be proficient in implementing cutting-edge techniques such as Real-Time EVCS Scheduling with GA and leveraging AI for Enhanced Energy Management.

Target Audience:

- Renewable Energy Engineers
- Electrical and Electronics Engineers
- Energy Managers
- Project Managers in Renewable Energy Projects
- Smart Grid Specialists
- Sustainability Coordinators
- Researchers in AI and Renewable Energy

Targeted Organizational Departments:

- Research and Development
- Operations and Maintenance
- Project Management
- Energy Management
- IT and Data Analytics
- Smart Grid Implementation Teams

Targeted Industries:

- Renewable Energy
- Utilities and Power Distribution
- Smart Grid Technology
- Electrical Engineering
- Energy Consultancy
- Sustainability and Environmental Services

Course Offerings:

By the end of this course, participants will be able to:

- Implement Optimization Algorithms for Renewable Energy Integration
- Utilize Chaotic PSO for PV System Modelling
- Apply AI and Machine Learning Techniques in Smart Grid Island Detection
- Develop Intelligent Control Techniques for EMI Reduction in DG Environments
- Manage Energy in Hybrid Renewable Energy Systems
- Integrate RES with MPPT using SVPWM Schemes
- Plan Distributed Networks incorporating Renewable Energy Sources
- Design User-Interactive PV Systems with advanced GUIs
- Enhance Situational Awareness in Micro-Grids using advanced algorithms
- Forecast Short Term Load Using ANN
- Schedule Real-Time EVCS using GA

Training Methodology:

This course employs a blend of interactive training methodologies to ensure a comprehensive understanding of the material. Participants will engage in case studies, group work, and hands-on sessions to apply Optimization Algorithms for Renewable Energy and Chaotic PSO PV System Modelling. Interactive lectures will cover AI in Smart Grid Island Detection and Intelligent Control for EMI Reduction. Practical workshops will focus on Energy Management of Hybrid Renewable Systems and the integration of RES with MPPT by SVPWM. Real-world scenarios will be used to demonstrate Distributed Network Planning with Renewable Energy, and participants will use advanced tools for User Interactive PV System Design. Each day will conclude with a reflection and review session to consolidate learning outcomes.

Course Toolbox:

- Detailed Course Workbook
- Case Study Compendium
- Interactive Learning Modules
- Templates and Checklists for Energy Management
- Online Resource Library

Course Agenda:

Day 1: Introduction to Renewable Energy Systems

- : Overview of Renewable Energy Integration and Optimization AlgorithmsTopic 1 •
- : Fundamentals of Chaotic PSO PV System ModellingTopic 2 •
- : AI in Smart Grid Island DetectionTopic 3 •
- : Intelligent Control Techniques for EMI ReductionTopic 4 •
- : Energy Management for Hybrid Renewable SystemsTopic 5 •
- : Review of key topics covered, addressing questions and insights gained.Reflection & Review •

Day 2: Advanced Integration Techniques

- : RES Integration with MPPT using SVPWMTopic 1 •
- : Managing Standalone Hybrid Wind-PV SystemsTopic 2 •
- : Distributed Network Planning with Renewable EnergyTopic 3 •
- : Designing User Interactive PV System GUIsTopic 4 •
- : Micro-Grid Situational AwarenessTopic 5 •
- : Discussion of the day's topics and practical applications.Reflection & Review •

Day 3: AI and Machine Learning Applications

- : Micro-PMU and Learning Vector Quantization AlgorithmsTopic 1 •
- : AI and ML Techniques for Smart GridsTopic 2 •
- : Energy Loss Allocation in Distribution SystemsTopic 3 •
- : Enhancing Transient Response of Statcom and HVDCTopic 4 •
- : Short Term Load Forecasting Using ANNTopic 5 •
- : Consolidation of AI and ML applications discussed during the day.Reflection & Review •

Day 4: Practical Implementations and Optimization

- : Real-Time EVCS Scheduling with GATopic 1 •
- : Leveraging Artificial Intelligence in Renewable EnergyTopic 2 •
- : Machine Learning Techniques in Energy SystemsTopic 3 •
- : Optimization Techniques for Energy ManagementTopic 4 •
- : Advanced Energy Management with AI and MLTopic 5 •
- : Practical insights and reflections on the implementation techniques.Reflection & Review •

Day 5: Integration and Future Trends

- : Smart Grid Technology IntegrationTopic 1 •
- : Distributed Generation Energy ManagementTopic 2 •
- : Control Algorithms for Hybrid Renewable EnergyTopic 3 •
- : Future Trends in Renewable Energy Systems with AI IntegrationTopic 4 •
- : Case Studies and Real-World ApplicationsTopic 5 •
- : Final reflections on course learnings, future applications, and Q&A.Reflection & Review •

How This Course is Different from Other AI Empowered Maintenance Courses:

This course stands out due to its unique combination of theoretical knowledge and practical applications, specifically tailored to the needs of the renewable energy sector. Unlike other courses, it provides a hands-on approach to learning with real-world case studies and interactive sessions. Participants will not only learn about Optimization Algorithms for Renewable Energy and AI applications but will also gain practical skills in Chaotic PSO -PV System Modelling and Intelligent Control for EMI Reduction. The inclusion of advanced topics such as Micro Grid Situational Awareness and Real-Time EVCS Scheduling with GA further distinguishes this course, ensuring that attendees are well-equipped to tackle the challenges of modern energy systems.



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فئات الدورات التدريبية



HR TRAINING & DEVELOPMENT

دورات إدارة و تطوير الموارد البشرية



دورات إدارة و تحليل البيانات ودورات علم البيانات



دورات إدارة الجودة وتطوير العمليات



الدورات التدريبية في مجال البيئة والاستدامة



دورات التسويق وإدارة علاقات العملاء وإدارة المبيعات



دورات التدريب القانوني والمشتريات والتعاقدات



دورات الاتصال الجماهيري و السياسات والعلاقات العامة



دورات الذهن السبراني ودورات تقنية المعلومات



دورات الصيانة ودورات المجالات الهندسية المتنوعة



دورات الصحة والسلامة والذهن المهني



دورات السكرتارية و إدارة المكاتب



دورات الحوكمة وإدارة المخاطر والامتثال



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فئات الدورات التدريبية



دورات معتمدة من قبل هيئات دولية



دورات في مجالات القيادة والإدارة



دورات المهارات الشخصية وتطوير الذات



دورات الحاسبة و التمويل و دورات الإدارة
المالية



دورات مكتب إدارة المشاريع وإدارة المشاريع
الرشيقة

مدن التدريب



أهستردام - هولندا



أكرا - غانا



أثينا - اليونان



أبوظبي - الإمارات العربية المتحدة



الدوحة - قطر



الدار البيضاء - المغرب



الجبيل - المملكة العربية السعودية



استنبول - تركيا



المنامة - مملكة البحرين



الكويت - الكويت



القاهرة - مصر



الرياض - المملكة العربية السعودية



باتوك - تايلند



بالي - جمهورية إندونيسيا



باكو - أذربيجان



باريس - فرنسا

مدن التدريب



بورنو - البرتغال



برلين - ألمانيا



برشلونة - إسبانيا



براغ - جمهورية التشيك



جاكرتا - جمهورية إندونيسيا



تورنتو - كندا



تيليسي - جورجيا



بوكيت - تايلاند



روما - إيطاليا



دبي - الإمارات العربية المتحدة



جوهانسبرغ - جنوب إفريقيا



جنيف - سويسرا



سيول - كوريا الجنوبية



سنغافورة - سنغافورة



سان دييغو - الولايات المتحدة الأمريكية



زنبار - تنزانيا

مدن التدريب



طشقند - أوزبكستان



طرابزون - تركيا



شيكاغو - الولايات المتحدة الأمريكية



شرم الشيخ - مصر



فرانكفورت - ألمانيا



عن بعد - منصة زووم



عمان - المملكة الأردنية الهاشمية



طوكيو - اليابان



لانكاوي - ماليزيا



كيب تاون - جنوب إفريقيا



كوالالمبور - ماليزيا



فيس - النمسا



مدريد - إسبانيا



ماربيا - إسبانيا



لندن - المملكة المتحدة



لشبونة - البرتغال

مدن التدريب



ميونخ - ألمانيا



ميلان - إيطاليا



مونتره - سويسرا



مسقط - سلطنة عمان



نيويورك - الولايات المتحدة
الأمريكية



نيس - فرنسا



نairobi - كينيا

WHO WE ARE

Agile Leaders is a renowned training center with a team of experienced experts in vocational training and development. With 20 years of industry experience, we are committed to helping executives and managers replace traditional practices with more effective and agile approaches.

OUR VISION

We aspire to be the top choice training provider for organizations seeking to embrace agile business practices. As we progress towards our vision, our focus becomes increasingly customer-centric and agile.

OUR MISSION

We are dedicated to developing value-adding, customer-centric agile training courses that deliver a clear return on investment. Guided by our core agile values, we ensure our training is actionable and impactful.

WHAT DO WE OFFER

At Agile Leaders, we offer agile, bite-sized training courses that provide a real-life return on investment. Our courses focus on enhancing knowledge, improving skills, and changing attitudes. We achieve this through engaging and interactive training techniques, including Q&As, live discussions, games, and puzzles.



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