- ABDERRAHMANE HAMMAR
- French citizenship
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Team and Project Manager for Electrification & Hybridization, EV, HEV, Energy Storage System, Autonomous vehicles, AI projects management, (experience; more than 23 years)

My Video CV in 2min :

EN : https://drive.google.com/file/d/13P1fgxQ2tAWUfXeUv13bW3AxkKrC4DXH/view?usp=drive_link

FR : https://drive.google.com/file/d/1mPoc6CJW4tF2rOoaNeXBRD9CQbDBElo5/view?usp=drive_link

Certificate from 26 Academy : AI projects management (2024)
Executive-MBA CNAM Paris France (June 2016)
PhD Electrical Engineering (UCBLyon1 France)
& Master II Electrical Engineering (UCBLyon1 France)
Electromechanical Engineer (Algeria), Magister electric control Algeria

Skills

AI (Artificiel Intelligence) Projects management

- Organization (enterprise) AI Assistants architecture definition, and specifications based on (1-organization service's common AI, 2-organization AI orchestration platform, 3-specific AI assistants) https://drive.google.com/file/d/1ADroEVRHUQQnJAkhwMDQ7iEOFBiUP9tb/view?usp=drive_link
- R&D AI based assistants' proposals and development (Specs assistants, HARA assistant...) *https://drive.google.com/file/d/1H1M4fjfvSuBkR_9rYmNb7yl8lk1r9MaQ/view?usp=drive_link*

Project and team Management (Team up to 15 Engineers,)

ADAS for shuttles and industrial vehicles and for urban applications

Electrical Energy Storage Systems (Batteries Li-based, Supercaps, Li-Cap...)

- Electrical and thermal characterization of electrical energy storage components
- Electrical and thermal modeling of electrical energy storage components
- Definition of measurement protocols for the accelerated aging of electrical energy components
- Performing accelerated aging tests
- Reliability study of electrical energy storage components
- Study of associations of electrical energy storage components for power applications

Hybrid and electric vehicles

- *Hybrid and electrified agriculture machines*
- *Light electrical vehicles*

- *Electrical and hybrid trucks and busses*

- **Power electronic and control, Electrical driving**
- Electrical energy management (couple batteries / supercapacitors, thermal source) for hybrid and electric vehicles
- Power electronics converters for transport applications
- *Materialization of controls with microprocessors or DSPs*
- MBD and Rapid prototyping under dSpace/Matlab/Simulink (real time system)
- Study and dimensioning of the driver for IGBT for space applications
- Study and control of electric drives (brushless motor, DC, asynchronous…).
- Study of power electronics converter controls (DC/DC, DC/AC, etc.)
- Studies of automatisms and automatic systems (servo-control, regulation, etc.)

- **Simulations**
- Simulations Matlab/ Simulink, Advisor, FemLab. Flux 2D... , Programmation C, API

Education and Diplômas

- **11/12/2024 to 31/12/2024 Artificial Intelligence projects Management Certificate (26 Academy France).**
- **October 2014- June 2016 E-MBA: CNAM: Management of Business Unit**
- **2002- 2006: PhD Electrical Engineering,** Project: Storage and management of electrical energy by supercapacitors: characterization, reliability, and interface for a hybrid rail transport system'♣, "Innovation and Research Department of SNCF Paris in partnership with Inrets Arcueil and Ampère: Former CEGELY (UCBL, ECL, INSA) Lyon
- **2001-2002: Master Electrical Engineering** « University Claude Bernard Lyon 1 » Laboratory Ampère ex CEGELY (UCBL, ECL, INSA) Lyon
- **1998-2001: Electrical control , Magister,** Project: "The electric vehicle: optimal on-board energy and drive" "University of Sciences and Technology Mohamed BOUDIAF" Oran – Algeria
- **1991-1996: Electromechanical Engineer** - Algeria (mention: Bien) "National Institute of Building Materials BOUMERDES ALGERIA"

Languages

- *English: Good to Fluent*
- *French: bilingual*
- *Arabic: bilingual*

Professional experiences

- **Since 03/2024: Personal project certified by 26 Academy in December 2024.**
  Elevate R&D Processes with Cutting-Edge AI Automation. See presentation in the link: https://drive.google.com/file/d/1H1M4fjfvSuBkR_9rYmNb7yl8lk1r9MaQ/view?usp=drive_link
- **02/2024 03/24 Renault/Alten**
- *Technical project manager dedicated for Pack of battery*

- *Team management*
- *Project and team management based on Three Tools (tasks follow up, Product definition engineering, sub component Specification distribution and follow*

05/2023 to 02/2024 Forsee Power

- Techncial leader projet SBMC (Swappable Batteries Motorcycle Consortium)
    - *Definition of the SBMC product and its limits*
    - *Technical solutions to fulfill product defined*
    - *Responsible of pack of batterie (prototypes)*

06/2022 to 12/2022 (Alten/Renault)

- Team organization and skills development
- Process for electronic component building including validation plan based on scenarios.
- Technical responsible / battery/BMS Hybrid vehcile Renault

06/2020 to 12/2021 Autonomous vehicles Roadmap deployment; NAVYA France

- Company Organization shifting from Full matrix to Hybrid organization
- Strategy definition for ADS; roadmap market oriented (Minimum Viable Product):
- Vehicles and applications targeting (shuttles, industrials…
- ADS roadmap translation through specified ODD and defined Scenarios and situtations
- Translation of the ODD by so called situations versus fallback (ODD exit & ADS failure)
- Translation of the strategy "MVP" to technical languages for development
- Initiation to modified development process influenced by new safety requested capabilities and scenarios Taxonomy culture

06/07/2020 à 03/2021: Projects manager Autonomous System Navya

- Contribution to the RoadMap and its dissemination in the process
- Support for organizational change o Project monitoring
- Technical contribution in the consolidation of the technical roadmap

01/02/2020 to June 2020 finalization & book publication

Stockage d'Énergie Électrique et Perspectives de l'Électrification', https://lnkd.in/eniXYefZ

I propose in this book to devote several chapters to the electrical energy storage system and to the various elements and functions essential to its operation. The common thread of this work is based on the concept of homogeneous electrode and non- homogeneous electrode. From these concepts, we introduce the notion of component and the notion of electrical energy storage system. In Indeed, the different types of batteries, in particular the lithium battery and the supercapacitors as well than hybrid components, implement homogeneous & no-homogeneous electrodes

04/19 to 12/2019 Cross-functional technical manager; Forsee Power manufacturer of battery systems

- Battery systems for marine applications
- Battery systems for railway applications: Validation plan
- Contribution to market demands
- 48V product strategy

03/2018 to 31/12/2018: light electric vehicle team leader (PowerTrain+ Energy storage, Vehicle control); Altran for PSA projects (AMI project)

- Technical specifications of the various functions of the GFE perimeter
- Responsible for the QCDP of the perimeter (Design to cost, Supplier Recommendation)
- Management of the Functional Group team

- Definition of the operations strategy in particular for the (validation plan)
- Development of the software according to the 'Model Based Development' method

- **02/17 to 03/2018: Stationary applications project manager at Blue Solution Bolloré (Solution >1 MWh@2MW) Quimper/France**

- Project management of the Distributed Energy Resource (DER)
- Definition of general and technical specifications for the electrical energy storage system, the Blue-solution LMP battery being the basic element
- Definition of electrical architectures for the overall system
- Follow-up of the set-up of the power interfaces by the different partners
- Definition of the Communication and control architecture of the energy storage system and the power interface.

- **08/2011 to 11/2016: CLAAS TRACTOR Innovation Project Manager**

- Hybridization and electrification of agricultural tractors
- Definition of a hybridization and electrification strategy for tractors
- Implementation of a hybrid demonstrator with external partners to the company
- Management of the Hybridization and electrification of agricultural tractors project team

- **10/2010 to 07/2011: Thales power electronics designer: space applications, Thales Charleroi/Belgium**

- Study and dimensioning of driver for Inverters based on IGBT for ARIANE5 applications
- Solution proposal based on the dSPACE tool for space applications
- Contributions to the response to market demands

- **2006 to 09/2010: Technical project manager at PVI France "production of industrial vehicles"**

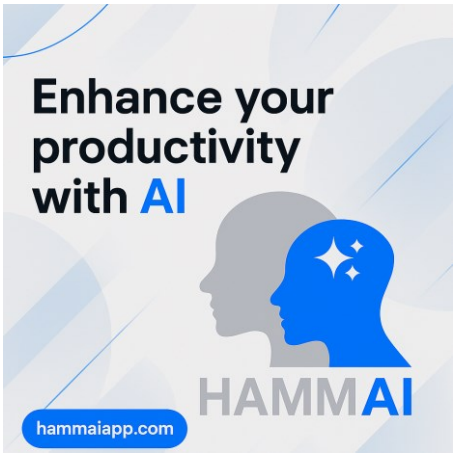
- Set up of Energy storage system based on the association of batteries and supercapacitors for heavy vehicles and electric buses
- Energy management in energy storage systems for buses.
- Development of DC / DC converters and validation
- Development of chargers for high energy density batteries
- Control development for electric motors
- Study of a hybrid architecture (thermal + electrical)

- **2003- June 2006: Researcher SNCF/France**

- Study of on-board energy in autonomous transport systems at the "SNCF research department: 45 rue de Londres Paris" in collaboration with "INRETS (Arcueil), Laboratory of new technologies"

- **ANNEX: 1994- 2001: Experiences in Algeria** 1998- 2001: Internship in the electric drive laboratory as part of the Magister's thesis entitled: 'The electric vehicle: optimal on-board energy and drive'. "USTO Oran Algeria"
- 1997-1998: Small family business Computer systems and maintenance (3 people), Management of a small jewelry store in partnership with a friend, "26 rue si Youcef Mahdia-Tiaret"
- 1996: End-of-study internship 'Engineer': Improvement of the reliability of the handling of a brickyard, by replacing its wired control logic with a programmed logic 'Siemens industrial programmable controller'. "Brickworks of Colonel Amirouche Boudouaou Algeria"

- 1995: Intermediate internship project “Rouiba Algeria”
- 1994: Worker Internship: “Floris Plasterer Oran-Algeria”
- Automatic project: speed regulation of the direct current electric motor “INMC Boumerdes”
- Mechanical machine elements project: sizing of a two-stage speed reducer. “INMC Boumerdes-Algeria” o Instrumentation project: “Usto Oran-Algeria” speed sensor study



Generic Cover Letter :

Response to the Job Offer:

Introduction I have extensive experience in **electric vehicles, hybrid vehicles, Battery Energy Storage Systems (BESS), and autonomous vehicles**. Over the years, I have contributed to various projects involving **electrification, energy management, and autonomous system development**, working with industry leaders such as Renault, Forsee Power, and Alten, Navya, PSA…. My expertise allows me to provide **optimized AI-driven solutions** that improve efficiency, reduce costs, and enhance system safety. The added value I bring to this field includes:

- **Automated system optimization** for EVs, hybrids, and BESS.
- **AI-powered V cycle development** for energy management and system reliability.
- **Autonomous vehicle integration** with AI-assisted decision-making tools.

As part of the job offer published by your company, my approach based on a **modular AI architecture and specialized assistants** provides an adapted and innovative solution. My expertise in **designing and optimizing complex industrial systems**, combined with my advanced AI tools, significantly improves traceability, automation, and interdisciplinary collaboration. As part of the job offer published by your company, my approach based on a **modular AI architecture and specialized assistants** provides an adapted and innovative solution. My expertise in **designing and optimizing complex industrial systems**, combined with my advanced AI tools, significantly improves traceability, automation, and interdisciplinary collaboration.

1. A Modular AI Architecture Structured in Four Elements My AI architecture is based on four fundamental pillars that optimize the management of complex systems:

- **Central Orchestration Platform**: This platform acts as a **conductor**, coordinating various AI assistants and ensuring efficient supervision of processes.
- **Transversal Tools**: These tools ensure **coherent and fluid management of specifications**, requirements, and interactions between teams.
- **Specialized Assistants**: Each AI module is designed to address a specific problem. For example:
    - **Spec Generator**: Automatically generates specifications to avoid the **blank page problem** and provide a structured framework.
    - **Spec Analyzer**: Analyzes specifications to ensure compliance and consistency with client and regulatory requirements.
    - **HARA Analyzer**: Conducts risk analysis to secure system architectures.
- **Orchestrated AI Agents**: These agents execute specific tasks and collaborate under the supervision of the central platform to **automate critical project phases**.

2. Expertise in System Architecture and Process Optimization Your company seeks expertise in **designing and governing complex system architectures**. With over 20 years of experience in this field, including projects with Renault, Forsee Power, and Alten, I integrate **innovative AI tools** that accelerate and secure system management.

3. Methodology and Systemic Modeling A key aspect of the job offer is the use of **system modeling and engineering methods**. My approach relies on:

- **An AI orchestration platform** that **automates requirement analysis and distribution**.
- **Models such as the V-Cycle and MBSE approach** to structure and document system architectures.
- **Integration of standards like ISO 26262 and IEC 61508** to ensure robust and secure design.

4. Digitization of Processes and Automation Your company emphasizes digital transformation within organizations. My work on **industrial process automation** is based on:

- **AI-Assisted Specification Generation**: This module **generates compliant specifications within minutes**, using an **automated compliance matrix**.
- **Optimization of development cycles** through tools like **AI-Pilot**, which facilitates complex task management.
- **Automation of responses to tenders**, with an assistant that **analyzes specifications and proposes tailored solutions**.

5. Collaborative Work and Team Management My approach includes facilitating **interdisciplinary collaboration**, addressing your company's requirements for cross-functional project management. This is achieved through:

- **A collaborative AI platform**, allowing various teams to share and validate specifications in real-time.
- **Optimized communication between stakeholders**, thanks to **assistants dedicated to document management and requirement tracking**.
- **Supporting technical and functional teams** by integrating AI tools that help align project teams.

6. Perspectives and Evolution of AI for Your Company My work on the evolution of AI assistants aims to make AI **more than just an execution tool but a true co-pilot in industrial processes**. Your company could benefit from:

- **The shift towards collaborative AI**, which **offers real-time strategic recommendations**.
- **Better traceability and compliance**, through **automated AI audits** to ensure alignment with regulatory requirements.
- **Reduced time and costs**, by automating validation and testing phases.

7. Proposal for a Non-Binding Presentation I am available to conduct a **detailed and personalized presentation** of my approach and specialized assistants, demonstrating their **added value in optimizing complex systems**. This presentation can be conducted **without any commitment from your company**, allowing for discussions tailored to your company's specific needs.

Conclusion My proposal is based on integrating **advanced AI solutions tailored to your company's requirements**, leveraging my **modular architecture consisting of an orchestration platform, transversal tools, specialized assistants, and orchestrated AI agents**. My expertise in **industrial system architecture**, combined with a **digital and automated approach**, provides significant added value in supporting your company in optimizing and digitally transforming complex systems.

Abderrahmane HAMMAR, 06 61 48 19 20, http://dahoudial.wixsite.com/hammar , *https://hammaiapp.com/*