Cheick Oumar DIARRA

R&D engineer in materials science

Doctor in material science, I am passionate about applied research and motivated to tackle industrial challenges. Rigorous and curious, I seek to contribute to innovative projects.

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Core business

PHASE 1 **Skill development**

Throughout my life, I have been determined to continuously develop new skills, whether through formal training or self-teaching. For instance, during my thesis, I recognized the necessity of mastering a programming language to advance my research. I immediately took the initiative to learn it, leveraging online resources such as OpenClassrooms and seeking guidance from knowledgeable peers. This proactive approach enabled me to efficiently implement the programming tools required for my project and achieve my research objectives. This experience reflects my ability to adapt, identify skill gaps, and acquire new competencies to meet professional challenges effectively.

Sets his professional goals to be ambitious yet realistic.
Identifies and develops means to enhance his employability throughout his career; manages his professional development.
Broadens and upgrades his skillset, personal qualities and achievements.
Uses his networks to expand his scope of competence.
Knows how to transfer his expertise to other fields of activity.
Realizes the necessarily international dimension of his career path.
Accepts input from a mentor or coach to benefit his professional development.

PHASE 2 **Evaluation**

During my thesis, I regularly evaluated and synthesized existing literature in my field to ensure my research was grounded in a robust foundation. By critically analyzing the strengths and limitations of previous studies, I identified key knowledge gaps and proposed innovative methodologies to address specific challenges in physics. This evaluation process not only allowed me to situate my research within the broader scientific context but also contributed to advancing the field through well-informed, creative solutions. My ability to critically assess, prioritize, and integrate complex information equips me with the skills to tackle challenges with a strategic and forward-thinking perspective, both in research and beyond.

Knows how to regularly evaluate the progress, impact and outcomes of his staff's activities.
Takes part in evaluating both internal and external projects.
Is able to evaluate hypotheses and concepts lying beyond his field of expertise.
Encourages his staff to take ownership of the evaluation process.

PHASE 1 **Information management**

During my thesis and previous research internships, I consistently demonstrated strong information management skills by conducting comprehensive state-of-the-art reviews. Leveraging resources like Google Scholar, ResearchGate, and the University of Strasbourg library, I systematically gathered relevant information. Using Zotero, I categorized over 100 key

articles and books by theme, enabling quick retrieval and efficient management of sources. This approach not only streamlined my research process but also ensured thorough organization and accessibility of materials. These skills are highly transferable to managing complex data and projects in diverse professional contexts, ensuring structured and effective outcomes.

Knows how to review the state of the art (SOTA) in a scientific topic.
Makes efficient use of information-gathering methods, identifies pertinent resources, particularly bibliographic resources.
Masters web-based research (e.g., bibliographic databases, patent databases)
Knows how to judge the pertinence of information, critique sources and check source reliability.
Designs and implements information-gathering and management systems using suitable technology.
Addresses issues relating to the security and life cycle of data.
Seeks out support from experts in information and data management.

PHASE 2 Expertise and methods

The primary objective of my thesis was to develop a tailor-made methodology for the team I worked with. To achieve this, I stayed consistently up to date with the latest scientific advancements and publications relevant to my field. Additionally, I collaborated closely with experimentalists and experts from other disciplines, which greatly enriched my methodological approaches. These exchanges, particularly during events such as the French Photonics Day held in Strasbourg, allowed me to refine my methods and ensure their scientific and practical relevance. This experience equipped me with strong skills in scientific monitoring, interdisciplinary communication, and designing methodological solutions tailored to the specific needs of the team.

Is familiar with recent progress in fields related to his own.
Is able to engage in dialogue and collaboration with experts in other disciplines or fields of activity.
Takes ownership of new research methods and techniques.
Is able to document and evaluate his activities using statistical methods where applicable.
Can formulate complex problems that correspond to new challenges.
Is able to develop arguments in support of new projects.
Knows how to adapt his arguments to his audience.
Advises and assists his staff in making appropriate use of investigative methods, improving their performance and enhancing their skills.

Personal and relational qualities

PHASE 1 Communication

During my thesis, I presented my work on numerous occasions, including at the international E-MRS conference (in English) and the SPIC congress held in Saint-Malo. I regularly communicated my research in both English and French to diverse audiences, ranging from physicists to biologists and chemists. Additionally, my active participation in team meetings and consortium discussions with collaborating laboratories not only honed my presentation skills but also deepened my knowledge of my field. These experiences allowed me to adapt my communication style to suit various audiences, whether they were specialized researchers or interdisciplinary groups, ensuring my messages were clear and impactful.

Knows how to put together a persuasive presentation and communicate about his project or his activity.
Understands, interprets and communicates appropriately in a register suited to his aims and his audience.
Masters a range of communication tools.
Masters his online identity.
Contributes to the dissemination of knowledge within the company, and demonstrates effective teaching skills.
Is proficient in at least English and one other world language.

PHASE 2 Analysis, synthesis and critical thinking

> Pendant ma thèse, j'ai été amener à analyser mes résultats, à les synthétiser

Knows how to apply his analyzing and synthesizing abilities to new fields.
Takes ownership of new analytical methods.
Has a novel and independent way of thinking and makes significant contributions.
Questions “business-as-usual” scenarios in his activity.
Advises his staff to help them develop their own capacities of analysis and synthesis.
Stimulates critical thinking among his peers and his staff.

PHASE 1 Open-mindedness and creativity

Demonstrates an ability to acquire knowledge; shows flexibility and open-mindedness. Engages in interdisciplinary activities.
Possesses a constructive style of questioning and scientific doubt.
Develops, takes ownership of and tests new ideas; is clever; seizes opportunities.
Interacts with and seeks the collaboration of professionals of different cultures; knows how to accommodate cultural differences.

PHASE 1 Commitment

Recognizes and can clearly identify his sources of motivation.
Is able to sustain his commitment and motivation in the face of setbacks and adversity.
Deals efficiently with the routine aspects of his job.
Strives for excellence; shows determination.
Learns from his mistakes and bounces back from failures.
Relies on the support and assistance of his peers.

PHASE 1 Integrity

Respects the standards and practices of his entity.
Demonstrates integrity in the processing and dissemination of data.
Demonstrates integrity with respect to his partners’ or competitors' contributions in accordance with intellectual property rules.
Upholds the confidentiality and anonymity of subjects taking part in studies and research.
Honors his commitments and ensures the congruence between actions and words.
Declares any conflict of interest.

PHASE 1 Balance

Is aware of his aptitudes, knows how to take advantage of them and demonstrate them.
Expresses himself relevantly, confidently and didactically.
Recognizes the limits of his knowledge, skills and expertise, and knows where to find support when needed.
Is able to consider his practices and experience as part of the bigger picture.
Develops his strengths and knows how to correct his weaknesses by seeking the opinion of others.
Is aware of the need to reconcile career and personal life.
Develops mechanisms to cope with pressure and seeks support when needed.

PHASE 1 Listening and empathy

Has the ability to listen in various situations.
Understands the needs and way of thinking of the people he deals with, including those with a different field of expertise, occupation and/or culture.

Business management and value creation

PHASE 1 **Project management**

Plans projects to meet goals in accordance with strategy and priorities, and taking quality, deadline and budget constraints into account.
Knows how to write specifications.
Is accountable for resources used and for meeting the deadlines and quality requirements of the deliverable.
Reacts efficiently and appropriately to change and unforeseen events.
Conducts his project within a framework of auditing and evaluation, deploying the appropriate systems.

PHASE 1 **Managing change**

Can adapt his approach and the project organization according to imperatives.
Adapts to changes and opportunities; knows how and where to find advice.

PHASE 1 **Managing risks**

Can determine the risks related to his project and the means for controlling them.
Is aware that technological and financial risks increase during the innovation process.
Understands the concept of corporate social responsibility.

PHASE 1 **Decision-making**

Knows how to make appropriate decisions for each phase of his project.
Assists his line management in making major decisions (e.g., reporting, scenarios)