

AI LEVEL

AI-Powered Skills Portrait: Revealing Student Competencies Beyond the CV

Detailed Project Report

AI GRAND CHALLENGE

Career Guidance • Skills Mapping • Pay Transparency

1. Context & Problem Statement

1.1 A Labour Market Out of Sync

Each year, thousands of students graduating from preparatory classes, universities, or high schools enter the labour market with a narrow and often distorted picture of the careers available to them. Professional representations remain rigid: marketing, finance, and consulting absorb the vast majority of applications, while entire sectors — logistics, manufacturing, supply chain — struggle to attract junior talent, simply because they are poorly understood.

At NEOMA Business School, this imbalance is striking: in a cohort of 30 work-study students, only 5 chose Supply Chain — despite growing junior demand and a far less saturated market. Meanwhile, even prestigious institutions like ESSEC face difficulties placing students in marketing and finance roles, where competition is structurally overwhelming.

Core Paradox

Students flock to saturated sectors because they lack insight into the day-to-day reality of less visible professions, the competencies they require, and the genuine opportunities they offer. The problem is not a lack of talent — it is a lack of information.

1.2 The Skills Expression Gap

Beyond career orientation, students face another critical deficit: the inability to articulate their own competencies. A poorly described internship, an invisible extracurricular activity, informally acquired skills that never appear on a CV — these are lost assets, invisible to recruiters who rely on keywords and standardised formats.

Existing tools such as Brio or The Patch attempt to bridge this gap by optimising existing CVs. However, they work on form, not substance: they improve presentation without revealing what lies beneath the surface. The problem is not student incompetence — it is the inability to express competence effectively.

1.3 A Regulatory Framework Changing the Rules

New European regulations coming into force in 2026 will require companies to justify salary decisions in a transparent, documented manner. This creates an urgent need for an objective and structured competency framework — one that is auditable and understandable by all stakeholders.

Student challenge	Difficulty translating real experiences into recognisable, recruiter-ready competencies.
Employer challenge	Lack of standardised tools to justify salary decisions and identify genuinely competent profiles.
Systemic issue	Poor talent allocation: high-demand sectors overlooked by students due to poor visibility of competencies and career pathways.
Legal context (2026)	EU Pay Transparency Directive: companies must document and justify their compensation grids.

AI Level is born at the intersection of these tensions. It is not another tool to polish a CV — it is a platform to reveal, structure, and communicate the real potential of every student, in service of a fairer and more legible labour market.

2. Solution & AI Functionality

2.1 Theoretical Framework & Reference Foundations

AI Level does not rest on a proprietary taxonomy built from scratch. It is grounded in three complementary and established frameworks, each bringing a distinct layer of rigour to the competency mapping process.

PortraitScopie — The HR Foundation

PortraitScopie is a competency mapping methodology developed by Patricia Pierre-Gérôme, HR Engineer and creator of Myrhmica (<https://myrhmica.fr>). Rather than reducing a professional profile to a handful of bullet points, PortraitScopie describes each competency in depth — capturing know-how (technical skills), savoir-être (interpersonal and behavioural skills), and domain knowledge. The result is a rich, contextualised portrait rather than a standardised score.

Myrhmica has been recognised for its innovative approach to human-centred recruitment: awarded Best Inclusive Recruitment & Human Ecology Specialists 2025 — France, the company exemplifies how structured competency mapping can serve both individuals and organisations in a fair and transparent manner.

AI Level has the opportunity to access the Myrhmica API, giving direct programmatic access to the PortraitScopie competency referential and enabling real-time alignment between student profiles and the framework's structured taxonomy.

"I find this project truly exciting — it is a genuine bridge between innovation, education, and professional development. The fact that students are bringing visibility to lesser-known initiatives like PortraitScopie is a beautiful initiative. It also shows that, as young people, you are taking your futures into your own hands — you are a generation in action."

Patricia Pierre-Gérôme, HR Engineer & Creator of PortraitScopie

The Skills Portrait — What It Captures

At the core of AI Level's output is the Skills Portrait: a structured, human-readable document generated at the end of each conversational session. Unlike a CV, it does not merely list experiences — it describes how competencies were developed, in what context, and to what degree. The portrait is organised around five axes:

Technical know-how	Concrete skills and methods mastered: tools, processes, analytical techniques, domain-specific knowledge.
Interpersonal skills	Behavioural competencies: communication, adaptability, leadership, teamwork, conflict resolution.
Domain knowledge	Sector-specific understanding: industry dynamics, regulatory context, professional vocabulary.
Motivational drivers	What energises the student: types of tasks, environments, challenges, and working styles.
Development trajectory	How competencies evolved over time — from initial exposure to increasing mastery — and what remains to be developed.

Important notice

All results generated by AI Level are subject to critical review. The Skills Portrait is a structured reflection tool, not a definitive evaluation. Students are explicitly invited to challenge, amend, and validate each element of their portrait before sharing it with any third party.

ESCO — European Skills, Competencies, Qualifications and Occupations

ESCO (<https://esco.ec.europa.eu>) is the European Commission's multilingual classification of occupations, skills, and qualifications. It provides a shared vocabulary across EU member states, enabling consistent competency description regardless of national context. AI Level uses ESCO as its primary cross-border reference: every competency identified through conversation is mapped against the ESCO taxonomy, ensuring that the Skills Portrait is legible to European employers and compatible with the EU Pay Transparency Directive.

ROME — French Occupational Reference Framework

For students targeting the French labour market, AI Level also integrates the ROME classification (Répertoire Opérationnel des Métiers et des Emplois) developed by France Travail. ROME provides granular, field-level descriptions of occupations — including the competencies typically required, the typical career pathways, and the sectors in which each role is found. It serves as the primary matching engine in Stage 2 of the user journey, allowing AI Level to identify precise gaps between a student's current profile and the expectations of their target roles.

Design Philosophy

AI Level is designed first and foremost for the student, not the recruiter. The student retains full control over what they share and with whom. The recruiter receives a structured, readable output — but the student owns the process.

2.2 General Concept: AI Level

AI Level is an AI-powered conversational platform built on the PortraitScopie competency framework. Where PortraitScopie structures competencies into detailed portraits — know-how, soft skills, and domain knowledge — AI Level adds a conversational layer: an AI agent that guides each student through their own profile in a natural, dialogue-based format, without forms or lengthy personality tests.

2.3 The Three-Stage User Journey

Stage 1 — Reveal

The student does not upload a CV. Instead, the AI engages them in a natural conversation about their experiences, projects, extracurricular activities, and informal skills — uncovering competencies they would never have thought to mention. Leadership learned in a student association, project management developed during a hackathon, rigour built through a part-time job: all of this becomes visible.

The conversation is designed not to feel like an interview. It explores contradictions, detects uncertainty, revisits earlier topics, and adjusts its direction based on responses — functioning like an Akinator for professional competencies.

Stage 2 — Match

The student inputs the job offers they are targeting. The AI analyses keyword trends and required competencies, then identifies the gaps between the student's revealed profile and market expectations — using structured frameworks such as the French ROME classification or the European ESCO system.

This stage also produces an enriched career map: for each sector, the tool indicates the most in-demand competencies, supply/demand tension on the labour market (based on historical job posting data), and associated salary ranges.

Stage 3 — Act

For each identified gap, AI Level generates a concrete, personalised action plan: rephrasing existing experiences, recommending MOOCs, certifications to obtain, or student associations to join. Everything is prioritised according to the student's timeline.

The final output is a living Skills Portrait — not a static document, but an evolving profile that grows with the student and can be selectively shared with recruiters in full compliance with GDPR and the new EU pay transparency obligations.



2.4 Core Capabilities of the Conversational Agent

To go beyond a simple questionnaire or a fixed decision-tree algorithm, the AI must be capable of:

- Rephrasing student responses into professional language without distorting the original meaning
- Dynamically adjusting questions based on context provided in previous answers
- Exploring contradictions and areas of uncertainty within the conversation
- Detecting implicit competencies not explicitly mentioned by the student
- Revisiting earlier topics to deepen understanding or validate conclusions
- Balancing hypotheses to avoid over- or under-valuing any given profile

The objective is a conversation that feels natural and non-judgmental — transparent in its mechanisms, and ethical in its handling of personal data.

3. Technical Architecture

3.1 From Seven Components to a Modern LLM Architecture

In our initial design phase, we conceived a seven-layer pipeline — a sequential stack comprising a conversational frontend, NLP engine, semantic analyser, probabilistic engine, skills graph, question generator, and recommendation system. While this architecture was instructive as a conceptual map, it reflected pre-LLM design thinking: in practice, as of 2025–2026, all seven of these functions are natively covered by a single orchestrating LLM call with a structured system prompt, augmented with retrieval.

We therefore evolved to a leaner and more technically accurate architecture, aligned with current production-grade AI systems:

LLM Orchestrator	A large language model with a structured system prompt manages the entire conversational flow: question generation, semantic interpretation, competency inference, contradiction detection, and output formatting. No separate NLP pipeline required.
RAG on ROME / ESCO	Retrieval-Augmented Generation grounds every competency attribution in verified, structured data. The LLM retrieves relevant occupational descriptions and skill definitions from ROME and ESCO at inference time, reducing hallucination risk and ensuring regulatory traceability.
Structured Memory	A persistent scratchpad file — updated after each conversational turn — stores a running synthesis of the student's profile. The LLM reads this file at each iteration, preserving coherence across long conversations without exceeding context limits.
Portrait Generator	At session end, the LLM assembles the accumulated scratchpad into a formatted Skills Portrait, structured according to the PortraitScopie axes. Output is available in PDF and sharable digital formats.

Advantage vs. 7-layer pipeline	Reduced engineering complexity: fewer systems to build, test, and maintain. Faster iteration cycles. Lower infrastructure cost.
Advantage vs. 7-layer pipeline	Better semantic coherence: a single model holds the full conversational context rather than passing outputs between separate modules with potential information loss.
Advantage vs. 7-layer pipeline	Easier compliance: a single inference call with structured outputs is more auditable than a multi-system pipeline.
Key constraint retained	Conversation hermetics: each student session is fully isolated. No conversation data is ever used to fine-tune or update the model. This prevents the model from learning from erroneous, biased, or unvalidated student inputs — a critical safeguard for regulatory compliance and profile integrity.

“Your project reminds me of an Anthropic study in which they interviewed 80,000 professionals about AI — and in their methodology, they used a chatbot to collect the data. Your model follows the same principle, using PortraitScopie to gather, process, and structure information. I also find the idea genuinely interesting: at that age, we rarely know what we want to do. Having a tool that improves that process — that supports introspective thinking — is a valuable thing.”

Alain Goudey, Associate Dean for Digital, NEOMA Business School

3.2 Conversational Memory — The Scratchpad Pattern

Context management over long conversations is one of the most significant technical challenges of LLM-based applications. The more a student shares, the higher the risk that early information — a formative experience, an expressed preference, a stated limitation — is forgotten or diluted as the conversation grows.

AI Level addresses this with a structured scratchpad: a lightweight, continuously updated file that the LLM reads at the start of each turn and writes to at the end. This pattern — documented by Anthropic in 2025 and used in production systems such as Claude Code and structured skill files — ensures that no relevant information is lost across the session, that the AI does not ask redundant questions, and that the final portrait accurately reflects the full conversation rather than only its most recent exchanges.

Critically, each student session is hermetically sealed: the scratchpad is session-scoped and never persisted beyond the session without explicit student consent. The model does not learn from individual sessions, which means that an incorrect inference or a student's self-reported information — however inaccurate — cannot propagate into the model's behaviour for other users.

Technical strength to highlight

The scratchpad pattern is a proven, production-grade architecture choice. It is not a workaround — it is the recommended approach for stateful LLM applications requiring long-context coherence without fine-tuning.

3.3 Safeguards: Confidence, Traceability & User Validation

Hallucination and over-attribution of competencies represent the most significant risk in AI-assisted skills profiling. Inferring 'leadership' from a babysitting experience, or attributing 'project management expertise' from a single student event, without objective evidence, is not only a quality issue — it is a regulatory liability under the EU Pay Transparency Directive, which requires that competency evidence be documented and defensible.

AI Level implements a four-layer safeguard system:

Confidence scoring	Every competency identified by the AI is assigned a confidence level (high / medium / low) based on the quantity, specificity, and consistency of evidence provided by the student. Low-confidence attributions are flagged visibly in the Skills Portrait and require explicit student validation before inclusion.
Traceability	Each competency in the final portrait is linked to the conversational exchange(s) that generated it. The student —

	and, if consented, the recruiter — can trace every claim back to its source. This audit trail is essential for compliance with the EU Pay Transparency Directive.
User validation	Before the portrait is finalised or shared, the student reviews every competency entry, its confidence level, and its supporting evidence. They can remove, amend, or flag any item for re-examination. No competency is published without explicit student approval.
Critical framing	The AI explicitly reminds the student at multiple points in the conversation that its inferences are hypotheses, not verdicts. The student is encouraged to challenge the AI's interpretations and to bring their own critical perspective to the process.

Regulatory alignment

The EU Pay Transparency Directive (2026) requires employers to justify salary decisions with objective, documented competency evidence. AI Level's confidence scoring, traceability layer, and user validation system are designed precisely to produce the kind of auditable, evidence-based competency documentation that this directive demands — on both sides of the hiring relationship.

3.4 Data Sources & Reference Frameworks

ROME	French job and skills classification (France Travail) — structured database for competency-to-role matching in the French market.
ESCO	European classification of skills, competencies, and occupations (https://esco.ec.europa.eu) — primary cross-border reference for EU-compliant competency mapping.
PortraitScopie / Myrhmica API	Reference framework and API access (https://myrhmica.fr) for real-time alignment with the PortraitScopie competency taxonomy.
Market data	Historical job posting data (time online, application volumes) to calibrate supply/demand tension by competency and sector.
Enterprise module	B2B access layer for companies to submit data on open roles, required competencies, and hiring trends — continuously enriching the model's market intelligence.

3.5 Regulatory Compliance

Personal data governance is central to the project — particularly given that users are students. AI Level is built with privacy by design to comply with:

- **GDPR** GDPR: explicit consent, data portability and erasure rights, European data storage. The GDPR Pay Transparency objectives are directly served by AI Level's traceability and documentation features, enabling employers to demonstrate objective, skills-based compensation decisions.

- **EU AI Act** EU AI Act: algorithmic transparency, non-discrimination, bias auditing in the recommendation engine.
- **SecNumCloud** SecNumCloud: infrastructure hosted on ANSSI-qualified clouds to guarantee data sovereignty.
- **ISO 27001** ISO 27001: information security management certification targeted for the scaling phase.

4. Business Model

4.1 Strategic Positioning

AI Level adopts a freemium/premium model inspired by platforms that have successfully combined rapid growth with sustainable monetisation — such as LinkedIn. The objective of the launch phase is to maximise the student user base to build data assets, brand recognition, and credibility — before deploying the B2B premium offering.

4.2 Two Target Segments

B2C Segment — Students

Free (Freemium)	Access to the core conversation, skills profile preview, and career map exploration. Number of AI questions per session is capped.
Premium (individual)	Unlimited questions, access to job descriptions and market statistics, full Skills Portrait generation and download (shareable in interviews), personalised action roadmap.

B2B Segment — Schools, Employers & Institutions

Schools & training centres	Institutional licence for deployment across student cohorts. Aggregated dashboard for career advisors. Anonymised competency trend reports.
Government & public bodies	Institutional partnership to integrate AI Level into national guidance infrastructure (e.g. Parcoursup, France Travail).
Employers (HR module)	Tool for submitting in-demand competency data. Market trend dashboards. Volume packages: 100 / 500 / 800 users.

4.3 Competitive Advantages

- PortraitScopie foundation: a proven HR framework, not built from scratch.
- Student-centred design: the user is an active participant, not a data subject — a key differentiator from pure scoring tools.
- Dual value creation: a personal development tool AND documented evidence for EU pay transparency compliance.
- Real-world grounding: one team member is actively building Go Stage, a SaaS platform helping students find internships — ensuring the project is anchored in market reality, not theory.

4.4 Communication & Acquisition Strategy

Student community	Presence at student and industry career fairs, profession-focused video interviews, 'A day in the life of...' series, team adventure video diary.
Social media	Content focused on career guidance, professional spotlights, and underrated but high-opportunity sectors.
School partnerships	Pilot with 20 student testers from varied academic backgrounds + 5 HR managers to validate the Skills Portrait from the recruiter's perspective.
Credibility loop	Free access at launch rapidly builds a user base and generates data that improves model relevance — creating a reinforcing network effect.

Conclusion

AI Level starts from a simple but profound observation: the challenge students face in the labour market is not a lack of competence — it is a lack of language to express it. And that gap is costly: to students themselves, to employers who miss genuinely relevant profiles, and to a society that invests heavily in education without maximising its returns.

By combining a proven HR framework (PortraitScopie), a conversational AI capable of surfacing what remains invisible on a CV, and a dynamic map of the competency market, AI Level proposes a systemic response to a structural problem.

This project is not a theoretical answer to a theoretical problem. It is grounded in observed realities — in NEOMA cohort data, in the placement difficulties faced by ESSEC students, and in the new European legal obligations. It is carried by a team that believes career guidance and employability should never be a question of academic prestige or network, but of real competencies — properly understood and properly expressed.

Our Core Belief

AI cannot replace self-confidence. But it can help every student find the right words to express what they know how to do — and that alone is already a meaningful change.

— End of Report —

Appendix — Sample Skills Portrait (PortraitScopie Output)

The following is a translated reproduction of an authentic PortraitScopie Skills Portrait, illustrating the type of structured output that AI Level generates at the end of each student session. This example is centred on the competency cluster “Communicating on Social Networks” and demonstrates the breadth of information captured across the eight thematic dimensions of the framework.

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SKILLS PORTRAIT *Communicating on Social Networks*

Activities	Tasks	Techniques & Tools	Professional Knowledge
> Designing content > Preparing interviews > Creating videos	> Drafting interview questions in advance > Contacting contributors and guests > Publishing content on social platforms	> Layout design on Canva > Video editing techniques > Live communication techniques	> Adapting communication style to platform and target audience > Coordinating a team of contributors > Presenting a journalistic subject

Qualification Level	Career Target(s) — Job or Project
> Preparatory class for grandes écoles (Prépa)	> Communications Officer / Manager > Journalist

Aptitudes & Abilities	Values & Qualities	Skills & Talents	Interests & Passions
> Demonstrates patience in team settings > Active listening in interview contexts > Works autonomously	> Attentive and empathetic listener — builds rapport naturally > <i>Respect for all parties: “Everything always comes down to mutual respect”</i> > <i>Committed: “When you are truly engaged, very little can stop you”</i>	> Asks the right questions depending on context, topic, and interviewee > Creative mind: produces engaging, attractive content that draws people in	> Poetry > Video creation > Sociology

Activity Sectors	Credentials & Learning Paths	Physical Environment	Human Environment
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> Media & Information > Non-profit / Associations	> Literary Preparatory Class (Prépa Littéraire) > Volunteering	> Shared / open-plan office > Co-working space	> Collaborative team environment > Regular interaction with public figures
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Salary — Contract Type	Working Hours & Schedule
> 120 € / hour > Work-study contract (alternance) > Permanent contract (CDI)	> 36 hours per week > Day or night shifts possible

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