

Agent Project Proposal (00960290)

SuperWiser - Your AI Research Supervisor Assistant

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1 What is the AI Agent You Are Building?

Project Proposal: SuperWiser – Your AI Research Supervisor Assistant

Our proposal is to develop an AI-driven tool called **SuperWiser**, designed to simplify the task of matching graduate students with the ideal research supervisor. The main objective of SuperWiser is to help students identify a supervisor whose research focus, mentoring style, and academic objectives align with their own. This AI agent (which is divided into micro agents) will operate as a chatbot, connected to a specialized database containing comprehensive profiles of Technion researchers.

Students will engage with SuperWiser through a straightforward chatbot interface, where they will provide:

- **CV:** A CV draft, which our system will refine to fit each supervisor's requirements.
- **Research Interests:** Specific subjects or areas of study.
- **Supervision Preferences:** Preferred meeting frequency, style of feedback, and level of autonomy.
- **Other Criteria:** Additional considerations such as availability or expertise in particular methods.

Armed with these details, SuperWiser will intelligently query the database and recommend supervisors who best meet the student's needs. Moreover, it will generate a tailored email message addressed to the supervisor, complete with the newly revised CV attached. The new CV is validated by cross-referencing with the original CV to avoid hallucinations.

By merging data-driven insights with a conversational interface, SuperWiser streamlines and personalizes the process of choosing a research supervisor, ultimately fostering more productive and rewarding academic partnerships.

2 Why is this AI Agent Necessary?

Many students at the Technion struggle to find and approach academic supervisors, especially those new to the university and its research environment. Traditional methods—such as browsing faculty websites or relying on word-of-mouth—can be confusing and time-consuming. Sending the *first email* is particularly difficult: students worry about the right tone, which details to include, and how to present their *CV* to make a strong impression. Delays or discouragement at this stage can hinder their progress and diminish valuable research opportunities.

An AI-driven system could simplify and personalize this process. By analyzing faculty profiles, publications, and other data, it would recommend potential supervisors and guide students on drafting effective emails with polished CVs. This approach fosters productive student-supervisor matches and supports more successful research collaborations.

3 What Dataset(s) Will You Use?

We plan to create a custom database by scraping data from multiple online resources:

- **Technion Faculty Websites:** We gather faculty names and contact information from the DDS portal¹. In future iterations, we will also include data from additional departments such as Computer Science and Electrical and Computer Engineering.
- **Semantic Scholar API²:** We obtain each faculty member’s 20 most recent publications, capturing the title, publication date, and abstract (when available).
- **Student Reviews:** Wherever accessible, we collect student feedback on supervision experiences.

Our current scripts for scraping DDS and Semantic Scholar can be found on GitHub: <https://github.com/wr0om/PhDiddy>.

4 What tasks will the AI Agent perform?

SuperWiser uses several specialized “micro-agents,” each handling a part of the workflow:

1. **CV Parser Agent:** Receives the student’s CV, parses its contents, and prepares the data for further processing.
2. **RAG Agent:** Searches the database of Technion faculty to find the best supervisor match based on given user prompt and CV contents.
3. **CV Generator Agent:** Uses the parsed CV data to produce a new, enhanced CV tailored to the recommended supervisor.
4. **Feedback Agent:** Validates the final CV and email for correctness and consistency, ensuring no hallucinated or inaccurate information is introduced.
5. **Email Formulator Agent:** Drafts a professional email to the chosen supervisor, referencing the student’s interests, background, and the generated CV.

Once these steps are complete, SuperWiser provides a polished CV and a ready-to-send email. If the student remains unsatisfied with the recommendations, they can re-prompt SuperWiser with new preferences or concerns.

¹https://dds.technion.ac.il/people/academic_staff/

²<https://www.semanticscholar.org/product/api>

5 Provide a high-level diagram of your AI Agent and its interactions.

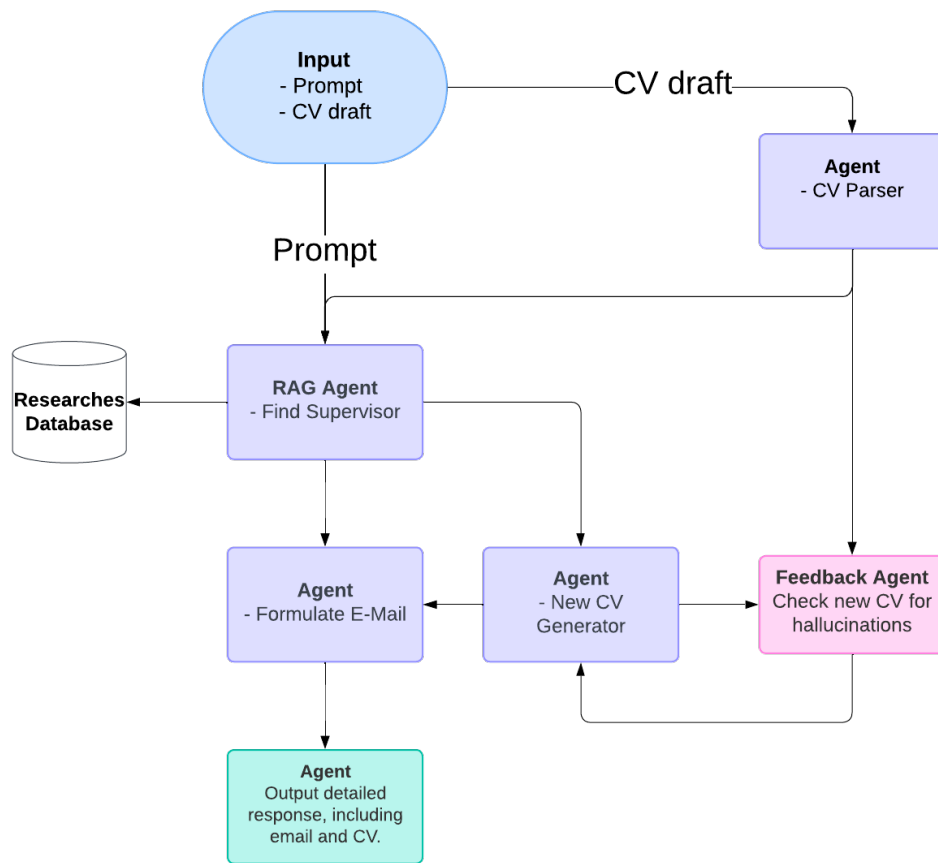


Figure 1: High-level diagram of SuperWiser's architecture and interactions.