



UNIVERSITEIT VAN AMSTERDAM

Using Generative AI in the Legal Domain

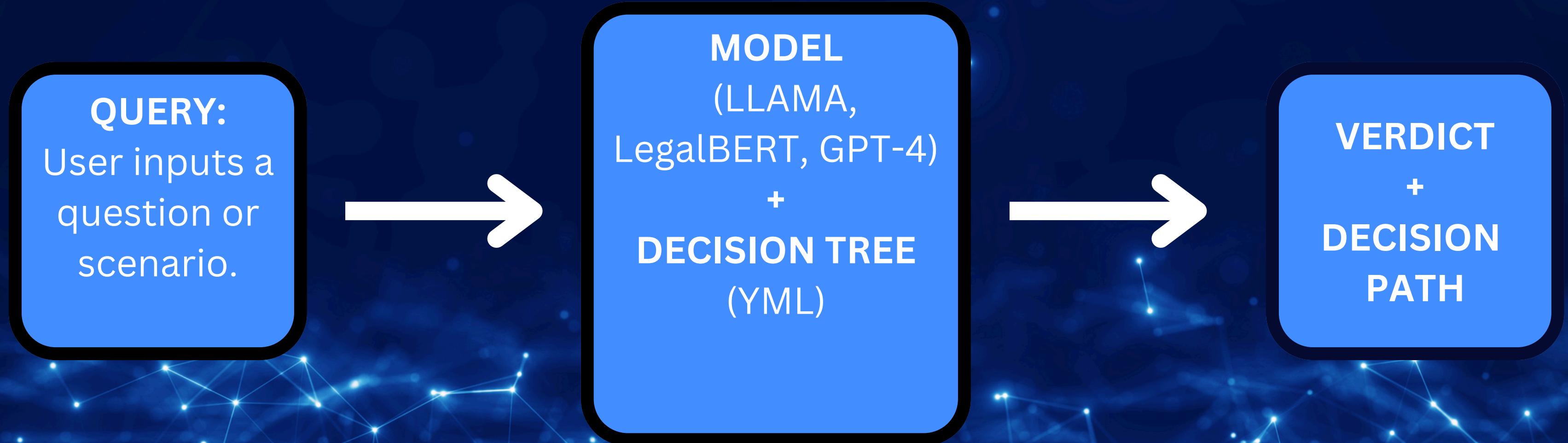
Group D1

13-12-2024



Hybrid Decision-Making System for Dutch Student Finance

- **Project Concept:** Combine Large Language Models (LLMs) with decision trees to interpret and apply student finance regulations.
- **Relevance:** Simplifies complex regulations and ensures practical usability for users.
- **Model's Transparency:** Use decision trees to provide clear reasoning paths and visual explanations for decisions.
- **Context:** Why is it relevant?



Pipeline Architecture

The pipeline begins with a user query, which is processed by a Neural Language Model (e.g., LLAMA, LegalBERT) combined with a decision tree (YML-based) to produce a verdict along with a transparent, explainable decision path.

Conditions for student finance

The screenshot shows a blue-themed government website. At the top left is the Dutch Royal Coat of Arms logo. To its right, the word "Rijksoverheid" is written in white. On the far left, there's a menu icon (three horizontal lines) and a contact icon (envelope). In the center, there's a search bar with a magnifying glass icon and the word "Zoeken". Below the header, a blue navigation bar contains the text "NederlandWereldwijd". Underneath this, a breadcrumb navigation shows "Home → Studiefinanciering ontvangen en terugbetalen →". The main content area features a large question: "Ik woon buiten Nederland. Kan ik Nederlandse studiefinanciering krijgen als ik in Nederland ga studeren?". Below this question, a text block explains that whether you can receive Dutch student financing while studying in the Netherlands depends on your situation and that you must meet certain requirements. At the bottom of the page, there's a section titled "Voorwaarden studiefinanciering" with a sub-section about studying in the Netherlands.

Rijksoverheid

☰ Menu ☎ Contact

NederlandWereldwijd

Home → Studiefinanciering ontvangen en terugbetalen →

Ik woon buiten Nederland. Kan ik Nederlandse studiefinanciering krijgen als ik in Nederland ga studeren?

Woont u buiten Nederland en gaat u studeren of stage lopen in Nederland? Of u studiefinanciering van de Nederlandse overheid kunt krijgen, hangt af van uw situatie. U moet in elk geval aan de voorwaarden voldoen.

Voorwaarden studiefinanciering

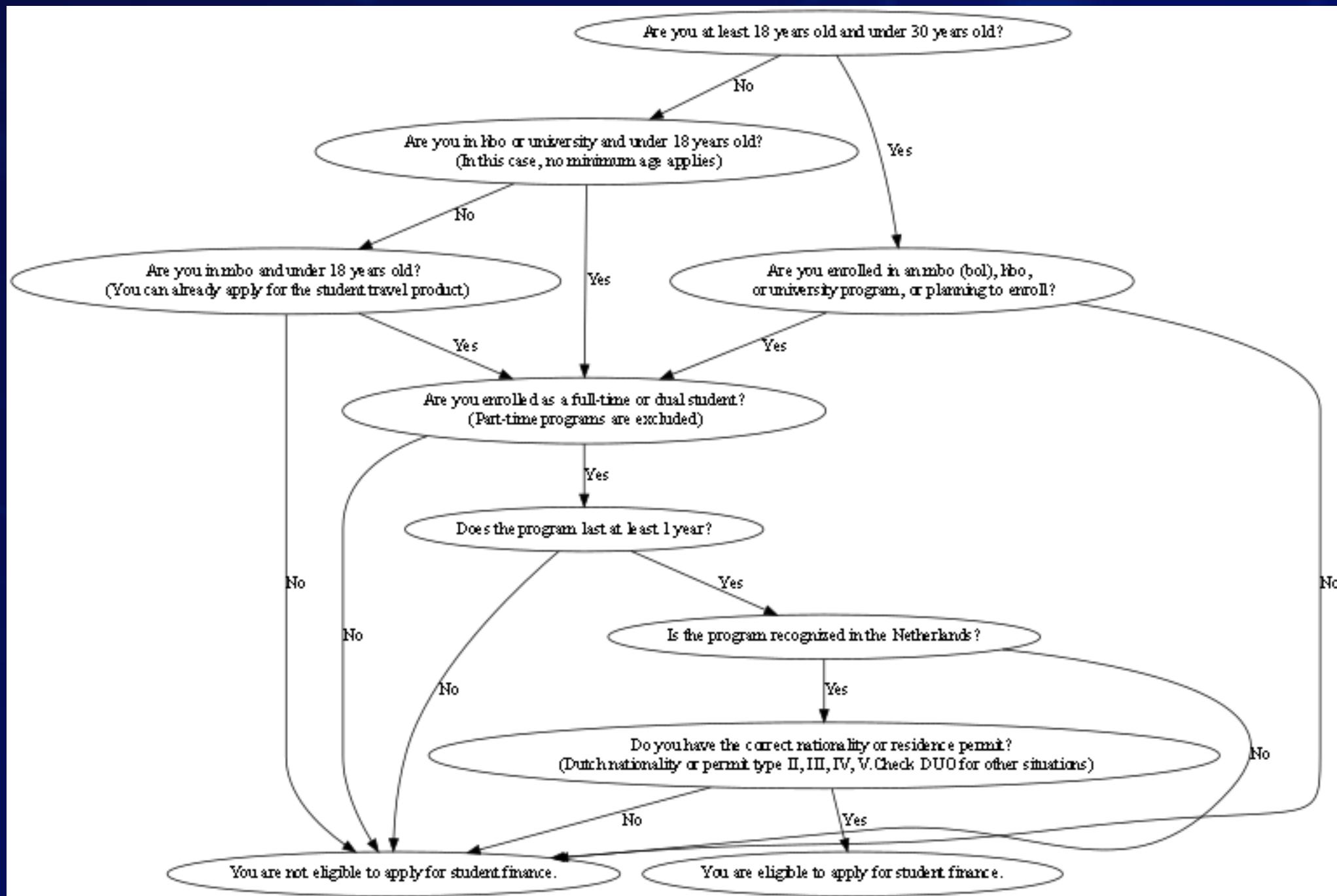
Om studiefinanciering van de Dienst Uitvoering Onderwijs (DUO) te

Voorwaarden studiefinanciering

Om studiefinanciering van de Dienst Uitvoering Onderwijs (DUO) te ontvangen gelden algemene voorwaarden:

- U bent minimaal 18 jaar en jonger dan 30 jaar. Hierop zijn 2 uitzonderingen:
 - Doet u hbo of universiteit? Dan geldt geen minimumleeftijd.
 - Doet u mbo en bent u nog geen 18 jaar? Dan kunt u al wel het [studentenreisproduct aanvragen](#).
- U volgt een opleiding aan het mbo (bol), het hbo of de universiteit of u gaat dat doen. U krijgt geen studiefinanciering als u een bbl-opleiding doet.
- Uw opleiding duurt minimaal 1 jaar.
- U staat voltijds of dual ingeschreven. U krijgt geen studiefinanciering als u een deeltijdopleiding doet.
- Uw opleiding is erkend in Nederland. De school of universiteit kan u vertellen of dat zo is.
- U heeft de Nederlandse nationaliteit of verblijfsvergunning type II, III, IV of V. Heeft u verblijfsvergunning type I? Of komt u, uw partner of uw ouder uit een ander [EU-/EER-land](#), het Verenigd Koninkrijk of Zwitserland? Kijk op de website van DUO [of u studiefinanciering kunt krijgen als u een andere nationaliteit heeft](#).

Our decision tree



Better version

- Missing some exceptions
- Structure
- Needs testing



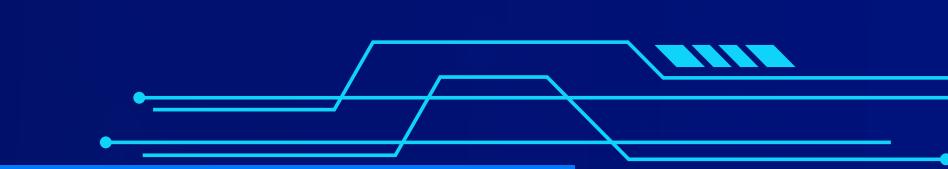
Evaluation

We're going to compare the models' outputs to the output of our own decision tree.

We'll be using an annotated test set of ground truth decision trees.



User Interface



Financial Regulations for Students

Understand your rights and obligations for student finance and navigate the financial aspects of your education with ease.

Student Travel Product

Learn about eligibility, how to apply, and what benefits the student travel product offers.

Eligibility for Student Finance

Check if you meet the criteria for Dutch student finance, including age, education level, and residency.

Applying for Student Finance

Learn about the types of financial support available, including loans, grants, and conditions.

Loan and Grant Options

Explore the differences between loans, grants, and the conditions for repayment or forgiveness.

Repayment Guidelines

Understand the repayment terms, interest rates, and options for adjusting your payments.

Living Abroad and Finance

Find out how living abroad or returning affects your eligibility for Dutch student finance.

Ask our AI-powered chatbot Simon anything and you will get your answer!



Contact Us

Email: support@studentfinancehub.nl
Phone: +31612345678

Resources

[Privacy Policy](#)
[Terms & Conditions](#)
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Chatbox

Simon | Student Finance Chatbot 

Your information is secure and handled in accordance with our privacy policy.

Hello! My name is Simon. How can I assist you today?

I want to know if I am eligible for student finance.

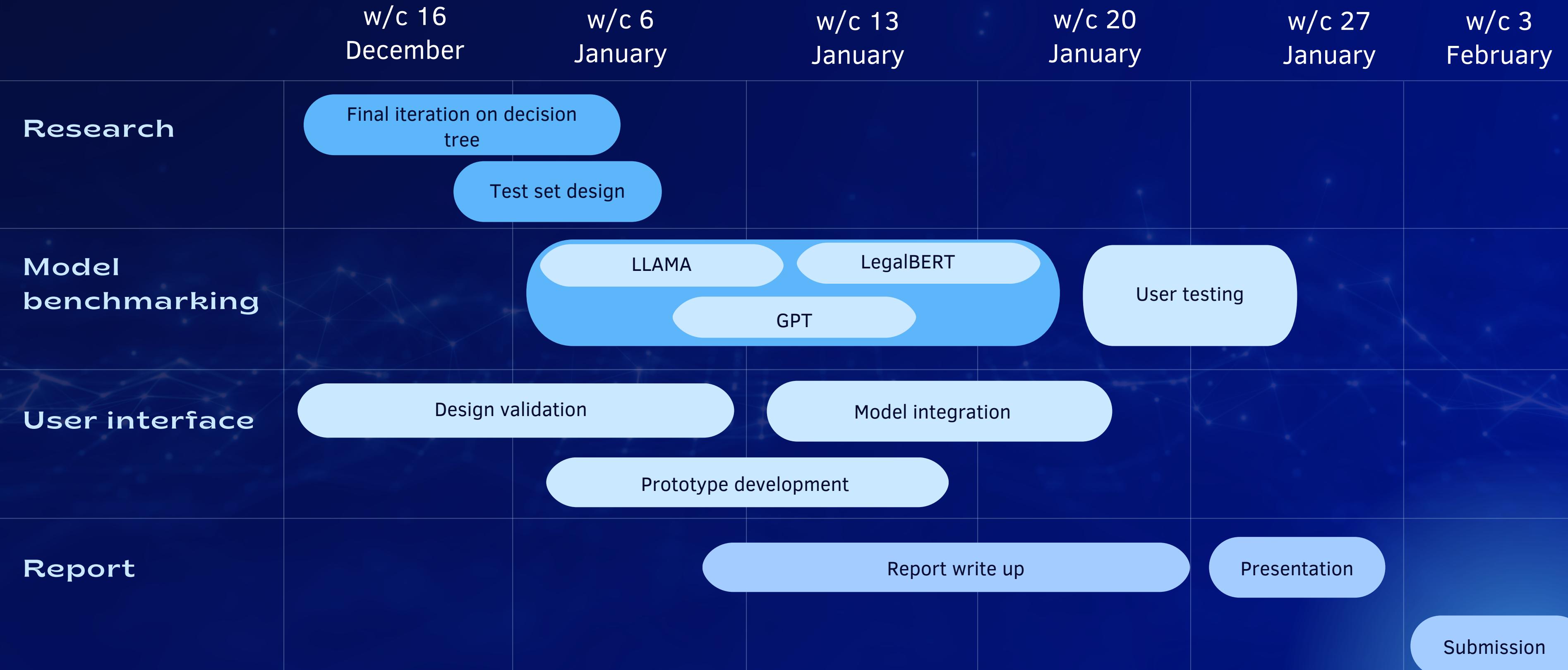
Ofcourse! Please provide the following information and I will find the regulations that apply to your situation:

- Age
- Current education
- ...

I'm 23 years old. I am currently following a maste 



Timeline





Conclusion & Next Steps

- **Benchmark Models:** Compare GPT-4, LegalBERT, and LLAMA for optimal performance.
- **Evaluate System:** Validate accuracy and transparency with test scenarios.
- **Test Scalability:** Apply the architecture to other downstream tasks.



Thank you! Any Questions?

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