

# FAF.FIA16.1 Spring 2021

## Lab 1: Expert Systems

**Handed out:** January 24, 2021

### Searching for tourists, expertly

Finally, your dream came true and you've landed a job at "HeinleinAI" – the biggest AI company in the whole Luna-City! You're on a testing period so you will want to make sure that you do your best.

While you are daydreaming about free lunch, the mentor comes and hands you your first task – you'll need to build an expert system. They say that while going through the central library database they stumbled upon this ancient approach that looked like it could solve a particular lunar problem – detecting tourists.

The tourists on Luna-City are a big source of income and while almost every salesman and hotel administrator can easily tell one from a Loonie, our mentor researches a more systematic way of detecting them. While this would prove a trivial task to the city's main computer, resources are scarce these days and so you will be researching alternative, more special approaches.

For starters, research the types of tourists that visit Luna-City and collect a database of at least 5 tourist types and the criteria by which they can be distinguished from Loonies and between themselves (i.e. clothes, accent, gait, height and opinion on politics). After your database is done, create a system that would allow the user to answer some questions about a possible tourist. If the set of given answers matches a type of tourist from the database, this should be the system's answer. If on the other hand, the system determines that the person in question is a Loonie, the answer should be returned accordingly. Make sure to consider the case when the set of answers does not find a match in the database (highly improbable if you've done your research well).

Another thing to consider is how the system will be deployed. The machines that are at your disposal are only capable of running Python code or Docker images. So if you choose to write your system in something exotic, like Prolog, make sure to package it all accordingly. To aid you in your task, the mentor gave you some ancient "lab" document and some Python code that he found in the library. Who knows how that might help..

### Reporting

At the end of this lab, you will need to submit your *source code* and a *report* describing what you have implemented. The report and link to a publicly available repository with the source code must be uploaded on [Else](#), in the according assignment activity. Any code repository should contain a *readme* file ([here's](#) a tutorial on what to consider when making a good one).

**Good Luck!**