Probabilistic Programming Practice Module

Sommer semester 2016
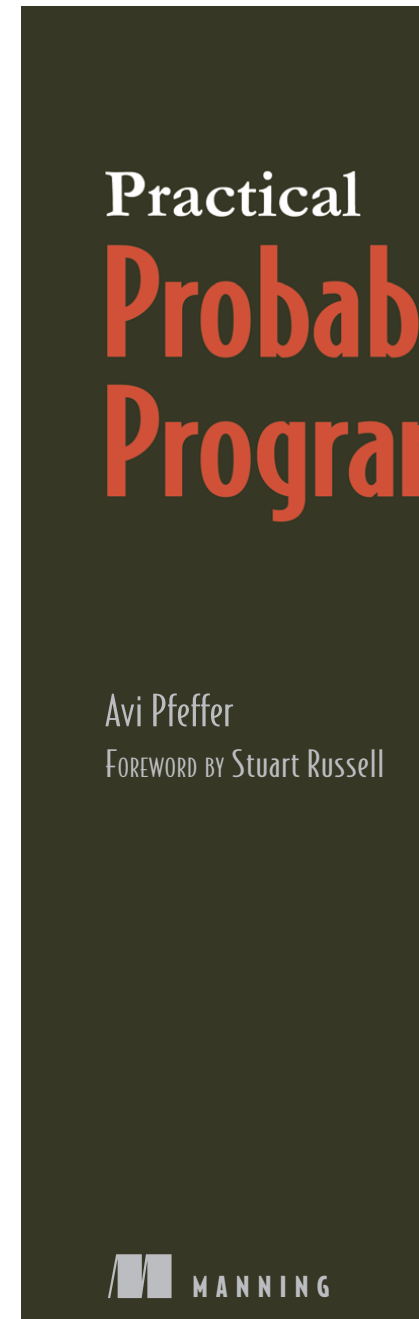University of Tübingen

Probabilistic programming

- Describe uncertain situations and ask questions about them.

  - What is the expected payoff of a lottery ticket?
    (Corbett and Geyer 2006)

  - Given 2 Monopoly strategies, which one wins more often?

  - Given a collection of symptoms, what is the most likely disease?

  - Given a model of flight delay, how much buffer time should I reserve to not miss connecting flights?

- Demo

- Better examples in the textbook

What are you going to do?

- Read a book

- Do exercises or voluntary projects

- Present your work and announce your goals once every 2 weeks
(in English or German)

Homework for weeks 1–2

- Install git and sbt

- Download <u>Figaro</u>

- Make a hello-world Figaro project

- Commit your hello-world project on an online repository

- Register on <u>the forum</u>

- Read the first 3 chapters of the textbook

- Decide what you want to do in weeks 3–4

- Total time: 8 to 16 hours

Tips

- Google "how to install X" for instructions about installing X.

- Google "git repository hosting" for online repository services. Github and Bitbucket are popular choices. You can also host the repository on your own computer.

- To create a hello-world project, follow Figaro getting-started guide, Figaro tutorial or the next slide.

- Post questions on the forum. Remember to check the checkbox next to "Probabilistic programming (SS 2016)" when registering for the forum.

My way to install Figaro

- Follow Figaro <u>getting-started guide</u> to install sbt

- Download <u>figaro_4.0.0.0-2.11.zip</u>

- Extract the zip file into a folder, say `$HOME/etc/figaro`

- To use Figaro, create a sbt project with the following lines in `build.sbt`:

  ```
  scalaVersion := "2.11.4"

  unmanagedBase :=
      file(sys.env("HOME")) / "etc" / "figaro"
  ```

- Add other sources to the sbt project as usual. The resulting project is visible <u>here</u>.

Resources

- Module homepage:
  http://ps.informatik.uni-tuebingen.de/teaching/ss16/ppp/

- Module forum:
  https://forum-ps.informatik.uni-tuebingen.de/c/ppp

- Figaro webpage with releases and documentation:
  https://www.cra.com/work/case-studies/figaro

- Google the search engine:
  https://www.google.de/