

EAA Seminar

Open Source Tools R and Python: Extending the toolbox of the actuary

13/14 May 2019 | Stockholm, Sweden



Organized by the EAA - European Actuarial Academy GmbH in cooperation with the Svenska Aktuarieföreningen.

Introduction

Over the last years, typical data science tasks like data manipulation and modeling have gained a stronger foothold in the day-to-day professional life of the actuary. Open source languages are renowned to be especially equipped to deal with these kind of tasks, but can also be tricky to get started with, especially when one has not been properly introduced to them. This workshop offers the opportunity to become more familiar with the open source environment and their applications, illustrated in detail by means of a number of hands-on modules, hereby enabling the actuary to tackle the data science tasks in an elegant manner.

Open source tools like R, Python and more recently Julia have gained a lot of momentum in recent years, not just in popularity but also in number of contributed code. Their respective communities are nowadays no longer exclusively composed of academic researchers and scientists, but also of professionals of all sorts of backgrounds, especially since the industry and corporate world have understood the added value of 'community driven software' and started to plug open source tools into their processes and corporate tissue.

On top of this, actuaries are confronted with the same issues as academic researchers and scientists: the production of readable, shareable and reproducible code and results. In the actuarial community, R already is a fairly known and used open source language, Python

however a little bit less, even if it's also packed with potential and even if it disposes of a vast biosphere of its own. This workshop will also focus on the 'scientific stack' of both R and Python and draw some comparisons between both worlds where we will try to show that it's not a matter of choosing between both ecosystems but of choosing the best of both (continuously evolving) worlds.

Participants

This seminar is suited for all actuaries who like to broaden their existing IT toolset. Basic knowledge regarding data analysis and/or development of actuarial tools is useful, yet not required.

Attendees are encouraged to bring a laptop computer with R and Python installed (*).

- One can install R from <https://www.r-project.org/>. As the editor we'll be using 'RStudio', which can be installed from <https://www.rstudio.com/>
- One can install Python in numerous ways but the easiest way is to install the 'all-in' distribution Anaconda (<https://www.anaconda.com/>, choose the default "Python 3.x" version). With anaconda installed, one has also the possibility to add R and 'RStudio' to the anaconda environment as one can notice in the 'Anaconda Navigator'.

(* prior to the seminar, we will supply the participants with an exhaustive list of packages/libraries that need to be installed additionally to the above tools, as well as a description of how to install them.

Purpose and Nature

The goal of this two-day seminar is to introduce the participants to both open source ecosystems and to get a good understanding of both languages. However, since both ecosystems are way too vast to be covered in merely two days, the participants will be asked to go through the basics of both languages themselves, prior to the seminar. During the first three hours of the seminar, these basics which will be shortly revised, but at a higher pace. The course material, containing the basics of both languages, will be provided by the organizers several weeks before the beginning of the seminar, such that the participants will have plenty of time to go through the material at her/his ease.

As such, less time needs to be spend on the basic elements of both languages, hereby enabling us to organize a three-hour hands-on exercise session to more easily assimilate the course material. Note that the participants need to bring along a laptop on which both R and Python are installed. Instructions on how to do so, will be provided by the organizers at the same moment as the course material of R and Python basics, hence several weeks in advance.

As a result, a jump start on how to truly use these languages in practice will be provided to the participants, by focusing on solutions for problems that they will surely regularly encounter in their day-to-day job, by handing over lots of links to online resources and a very rich course material and by even organizing hands-on exercise sessions.

Language

The language of the seminar will be English.

Lecturers

Luc Kesters

Luc Kesters is a consulting life actuary for over 20 years. The last 15 years he's working with Vereycken & Vereycken, a Belgian based insurance software development and consultancy company, on actuarial and IT related jobs with a strong focus on reporting. During his career IT solutions and technology have always taken up an important part of his work. In that context, he uses Python amongst others on a daily basis.

Robin Van Oirbeek

Robin Van Oirbeek, after working as a statistical/actuarial consultant for different companies, is now working as the lead of the technical innovation (regarding modeling and tooling) of the non-life actuarial team at Belfius Insurance. He is also affiliated to the AFI – Research Centre Insurance of the Faculty of Economics and Business at the KU Leuven. He uses R, amongst others, on a daily basis and this for over 10 years now.

Preliminary Program

Monday, 13 May 2019

08.45 - 09.00	Registration
09.00 - 09.15	Introduction & welcome (EAA)
09.15 - 10.45	R basics
10.45 - 11.00	Coffee Break
11.00 - 12.40	Python basics
12.40 - 13.40	Lunch
13.40 - 15.00	Importing and manipulating your data. Showing (off) your work: how to visualize and report results in R.
15.00 - 15.15	Coffee Break
15.15 - 17.00	Importing and manipulating your data, and how to combine using R and Python. Showing (off) your work: how to visualize and report results in Python.
approx. 18.30	Dinner

Tuesday, 14 May 2019

09.00 - 10.45	R exercise session
10.45 - 11.00	Coffee Break
11.00 - 12.40	Python exercise session
12.40 - 13.40	Lunch
13.40 - 15.10	It's not all static: building actuarial apps with R and Python, followed by real life actuarial applications and questions from the audience.
15.10 - 15.15	Concluding remarks, closing of seminar (EAA)

Fees & Registration

Please register for the seminar as soon as possible because of the expected demand. If there are more persons interested in this seminar than places available we will give priority to the registrations received first. Please send your registration as soon as possible by using our online registration form at www.actuarial-academy.com.

Your registration is binding. Cancellation is only possible up to 4 weeks before the first day of seminar. If you cancel later, the full seminar fee is due. You may appoint someone to take your place, but must notify us in advance. EAA has the right to cancel the event if the minimum number of participants is not reached.

Please always give your invoice number when you effect payment. All bank charges are to be borne by the participant. We will send you an invoice, please allow a few days for handling.

Your early-bird registration fee is € 840.00 plus 25% VAT until 13 March. After this date the fee will be € 990.00 plus 25 % VAT.

Venue & Accommodation

The seminar will take place at the hotel

ELITE HOTEL MARINA TOWER
SALTSJÖQVARNNS KAJ 25
131 71 STOCKHOLM
<https://www.elite.se/>

We have arranged special prices for accommodation. The special rate is 134,00€ per night, including breakfast and VAT. It is valid for bookings by 28.04.2019 out of our allotment "EAA Seminar". Our allotment includes a limited number of rooms. Kindly book your accommodation directly with the hotel using this [booking link](#), and note the hotel's cancellation policy.

CPD

For this seminar, the following CPD points are available under the CPD scheme of the relevant national actuarial association:

Austria:	11 points
Belgium:	11 points
Bulgaria:	12 points
Czech Republic:	2-3 points (individual accreditation)
Estonia:	11.5 hours
Finland:	7.75 points
Germany:	12 hours
Hungary:	12 hours

Ireland:	11.5 hours
Italy:	approx. 4 credits (GdLA individual accreditation)
Latvia:	12 hours
Netherlands:	approx. 11 PE-points (individual accreditation)
Portugal:	11.5 hours
Russia:	40 points
Slovakia:	8 CPD points
Slovenia:	50 points
Spain (CAC):	12 hours
Spain (IAE):	11 hours
Switzerland:	15 points

No responsibility is taken for the accuracy of this information.