EAA Web Session
Actuarial Data Science – Advanced

24-26 September 2025 | online

Organised by the EAA - European Actuarial Academy GmbH in cooperation with the Aktuarvereinigung Österreichs (AVÖ).

This is part two of four courses required to obtain the **EAA Certificate in Actuarial Data Science**. To earn the certificate, participants must complete all four modules, which include both the seminar and the exam. Members of AVÖ and/or DAV will obtain the additional title Certified Actuarial Data Scientist (by AVÖ and/or DAV) by fulfilling the same requirements.

Furthermore, all courses are open to interested actuaries to deepen their knowledge and skills in the field of Actuarial Data Science (without exams).

Introduction

Due to technological progress in connection with Data Science and Digitalization, summarized under the buzzword Big Data, a plethora of opportunities and challenges for the industry is arising.

Technological developments have now also reached the insurance industry and thus have a direct impact on the working world of actuaries.

Under the heading *Actuarial Data Science*, the procedures and methods of data mining are embedded in the actuarial context. These range from mathematics-driven statistical methods for derivation of insights from data to computation-driven methods sometimes summarized as machine learning. As a result of almost unlimited computing capacity through cloud computing and wide availability of training data, tried and tested methods of machine learning, such as artificial neural networks, are experiencing a renaissance in theory and practice.

This web session is the second part of a four-part series at the German Actuarial Association (DAV). In this online training, we will expand on and deepen some of the topics already known from the basic seminar, discussing further important techniques in the context of deep learning and data storage. It is based on the learning objectives of the DAV for Actuarial Data Science Advanced, which is part of the actuarial training in Germany.

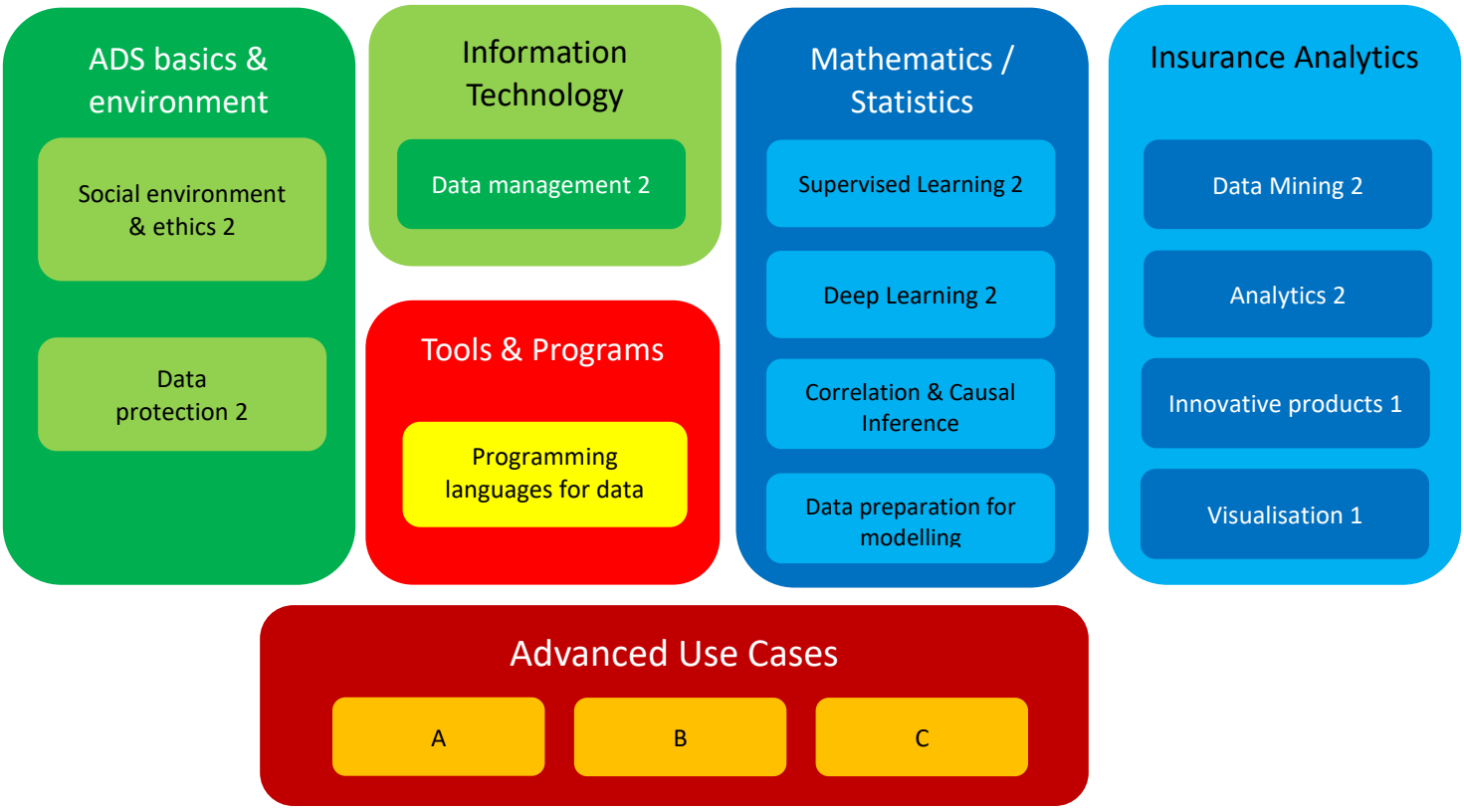
Participants

This web session is suited for actuaries (and actuaries in training), interested persons and for everyone who wants to get to know the topic (more precisely). Previous knowledge in Actuarial Data Science is helpful, but **not** mandatory. A solid mathematical education is necessary to follow some of the concepts that will be presented. A laptop is not necessary but can be helpful.

Purpose and Nature of part 2: Actuarial Data Science - Advanced

Based on the building blocks known from Basic, we want to deepen some topics and present further important topics from the field of Actuarial Data Science.

In this three-day training, we cover a wide range of topics. This includes an advanced introduction to the concepts and terms of artificial intelligence, modern data management concepts (with a special look at insurance companies), aspects of data protection and the mathematical and statistical concepts of data mining. On our way, we touch different use cases in the actuarial environment. To this end, we provide a brief insight into the widely used language Python. The training rounds off with principles for the ethical handling of artificial intelligence in the insurance environment.



Language

The language of the seminar will be English. The exams will be, by your preference, in German or English. Please choose the language during the booking process.

Lecturers

Prof Dr Fabian Transchel
holds the endowed chair of e+s Rück for Data Science at Harz University of Applied Sciences, Wernigerode, Germany. He's an avid proponent of Machine Learning and Artificial Intelligence in the insurance sector and has been instrumental in innovating motor insurance through telematics technologies, these days also teaching Actuarial Data Science for DAA and EAA.

Prof Dr Jonas Offtermatt
is a professor of programming and mathematics at DHBW Stuttgart. He has been working as a programming actuary since 2015 and has been teaching at DAA since 2019. With previous leadership roles in the insurance industry, he possesses extensive experience of IT-management and software development.

Wolfgang Abele
joined Deloitte 2018 as Senior Manager in the actuarial Non-Life team. He has more than 18 years of experience in the consulting and insurance industry, having worked for HDI Versicherung AG, MSG Consulting und Allianz. Before he joined Deloitte Wolfgang was head of the unit Reserving & Reinsurance.
Throughout his career, he was involved in a large number of actuarial projects, in pricing, reserving (IFRS, local GAAP, Solvency II), internal modelling and risk management. His focus was on predictive modelling, analytics, and process optimization. He has extensive knowledge in the programming language R and gives seminars on actuarial data science for the Deutsche Aktuar-Akademie (DAA).

Dr Marc Busse
is heading the department for software solutions within the microscopy division of ZEISS. Previously, he has been working for seven years in the reinsurance sector as an actuary with focus on data science related topics. Marc is a certified actuary (DAV) and holds a PhD in theoretical physics.

Dr René Külheim
is a mathematician and actuary (DAV) at PTA GmbH, where he heads the artificial intelligence department. In addition to data science-based project work in the financial sector, he is responsible for cloud-based software products with AI components.

Preliminary Programme

Wednesday, 24 September 2025

09.00 – 09.15	Introduction & welcome (Külheim)
09.15 – 10.00	Insurance Analytics – Data Mining 2 (Külheim)

10.00 – 10.45 Information Technology – Data management 2 (Külheim)
10.45 – 11.00 Break
11.00 – 11.45 Information Technology – Data management 2 (Külheim)
11.45 – 12.30 Information Technology – Data management 2 (Busse)
12.30 – 13.30 Break
13.30 – 14.15 Information Technology – Data management 2 (Busse)
14.15 – 15.00 Use Case (Busse)
15.00 – 15.15 Break
15.15 – 16.15 Mathematics & Statistics – Correlation & Causal Inference (Abele)
16.15 – 17.00 Use Case (Abele)

Thursday, 25 September 2025
09.00 – 10.45 Tools & Programmes – Programming languages for data science (Busse)
10.45 – 11.00 Break
11.00 – 12.30 Mathematics & Statistics – Deep Learning 2 (Abele)
12.30 – 13.30 Break
13.30 – 14.15 Basics & environment – Data protection 2 (Offtermatt)
14.15 – 15.00 Basics & environment – Social environment & ethics 2 (Offtermatt)
15.00 – 15.15 Break
15.15 – 16.15 Basics & environment – Social environment & ethics 2 (Offtermatt)
16.15 – 17.00 Basics & environment – Innovative products 1 (Offtermatt)

Friday, 26 September 2025
09.00 – 10.30 Mathematics & Statistics – Supervised learning 2 (Transchel)
10.30 – 10.45 Break
10.45 – 11.45 Mathematics & Statistics – Supervised learning 2 (Transchel)
11.45 – 12.30 Data preparation for modelling (Transchel)
12.30 – 13.30 Break
13.30 – 14.15 Insurance Analytics – Visualization 1 (Transchel)
14.15 – 15.00 Insurance Analytics – Analytics 2 (Abele)
15.00 – 15.15 Break
15.15 – 16.15 Use Case (Abele)
16.15 – 16.45 Use Case (Külheim)
16.45 – 17.00 Concluding remarks, closing of seminar (Külheim)

All the above times are given in CEST (Central European Summer Time).

Fees & Registration

Early Bird Registration Fee (until 13 August 2025):

- For private customers in the EU: €1,170.00 + VAT of the billing country (example Germany: €1,392.30 incl. 19% VAT)
- For private customers outside the EU: €1,392.30 (incl. 19% VAT)
- For businesses within the EU (excl. Germany, with valid VAT ID): €1,170.00 (net, reverse charge applies)
- For businesses in Germany: €1,392.30 (incl. 19% VAT)

Regular Registration Fee (from 14 August 2025):

- For private customers in the EU: €1,521.00 + VAT of the billing country (example Germany: €1,809.99 incl. 19% VAT)
- For private customers outside the EU: €1,809.99 (incl. 19% VAT)
- For businesses within the EU (excl. Germany, with valid VAT ID): €1,521.00 (net, reverse charge applies)
- For businesses in Germany: €1,809.99 (incl. 19% VAT)

Important VAT Information:

- For private customers with a billing address in an EU country: VAT will be charged at the applicable rate in the country of the billing address. The final amount, including VAT, will be calculated upon invoicing.
- For customers with a non-EU (third country) billing address: Only a non-company billing address is accepted for VAT compliance reasons. 19% VAT applies to all non-EU private customers.
- For businesses within the EU (excluding Germany), Iceland, Liechtenstein, Norway, Switzerland, and the UK with a valid VAT ID: The reverse charge mechanism applies (net price; VAT will not be charged). Please ensure your valid VAT ID is entered correctly during registration.
- For all customers with a billing address in Germany: 19% VAT applies.

Please send your registration by using this online form. After your registration, you will receive further log-in details to join the web session.

Your registration is binding. Cancellation is only possible up to 4 weeks before the first day of the event. If you cancel later, the full participation 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.

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

Registration is open until two working days before the web session. If registration has already been closed for this web session, please call us or send an email to contact@actuarial-academy.com in order to find out whether a late registration is still possible.

Technical Requirements

Please check with your IT department if your firewall and computer settings support web session participation (the programme *Zoom* will be used for this online training). Please also make sure to join the web session with a stable internet connection.

CPD

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

Austria:	19.5 points
Belgium:	19 points
Bulgaria:	15 points
Croatia:	individual accreditation
Czech Republic:	19.5 hours
Denmark:	21 hours
Estonia:	19.5 hours
Finland:	11.75 points
France:	117 points
Germany:	21 hours
Greece:	26 points
Hungary:	20 hours
Iceland:	19.5 credits
Ireland:	19.5 hours
Italy:	approx. 4 credits (GdLA individual accreditation)
Latvia:	20 hours
Lithuania:	19.5 hours
Netherlands:	approx. 19.5 PE-points (individual accreditation)
Norway:	20 points
Poland:	19.5 hours
Portugal:	19.5 hours
Serbia:	5 hours
Slovakia:	8 CPD points
Slovenia:	50 points
Spain (CAC):	20 hours
Spain (IAE):	19 hours
Switzerland:	15 points
USA:	SOA: (Section B): up to 23.40 hours

No responsibility is taken for the accuracy of this information.