actuarial association of europe

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Actuaries and Data Scientists

How being "Fit and Proper" can be an opportunity for the actuarial profession

Actuarial Association of Europe

- The Actuarial Association of Europe (AAE) was established in 1978, originally as the Groupe Consultatif Actuariel Européen, to represent actuarial associations in Europe.
- Its purpose is to provide advice and opinions to the various organisations of the European Union – the Commission, the Council of Ministers, the European Parliament, EIOPA and their various committees – on actuarial issues in European legislation.
- The AAE currently has 37 member associations in 36 European countries, representing over 27,000 actuaries.
- Advice and comments provided by the AAE on behalf of the European actuarial profession are totally independent of industry interests.

“Those that fail to learn from history are doomed to repeat it.”

Sir Winston Churchill

The evolution of the actuaries

Pioneers

1st Kind

2nd Kind

3rd Kind

4th Kind

5th Kind

What is next?

Source: “Recent Challenges in Actuarial Science”, Paul Embrechts & Mario V. Wüthrich

The Pioneers

Johan de Witt (1625 – 1672)
”The Worth of Life Annuities Compared to Redemption Bonds”

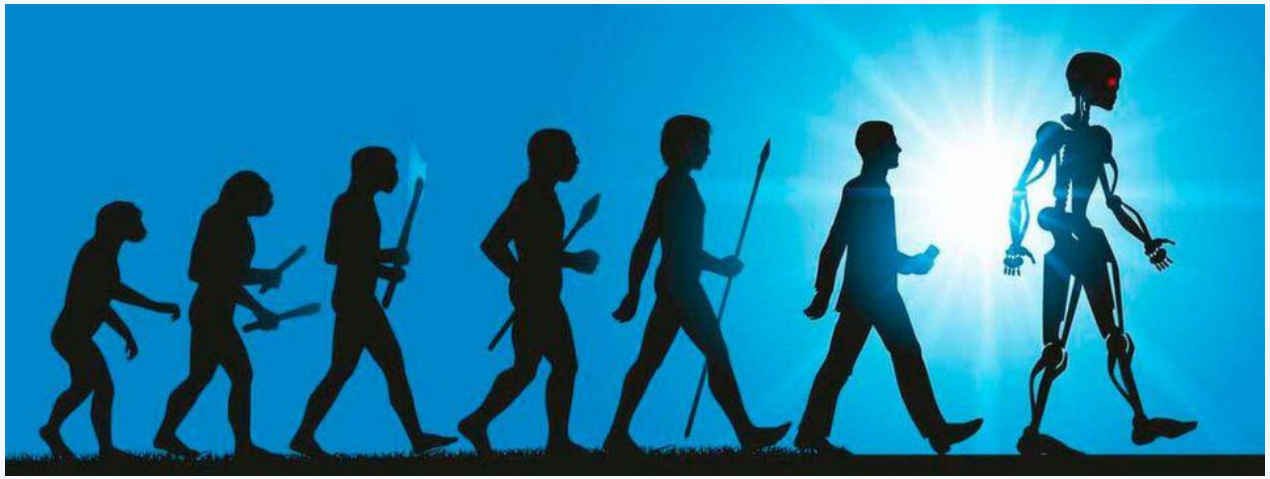
Jacob Bernoulli (1655 – 1705)
“Ars Conjectandi”

The evolution of the actuaries

1st Kind

The deterministic model–guided life actuary

The evolution of the actuaries



2nd Kind

The stochastic model–oriented non-life actuary

The evolution of the actuaries

3rd Kind

ALM actuary

The evolution of the actuaries

4th Kind

Enterprise risk management actuary

The evolution of the actuaries

5th Kind

Data driven and model guided, critical and
socially responsible financial decision maker in an ever-changing world
governed by uncertainty

The evolution of the actuaries - conclusion

It is not a reinvention of the actuarial profession.

It is merely the reflection of the evolving societal conditions (demographic, technological, environmental, political, and legal).

What are actuaries and what are data scientists

Chat GPT – Definition of an actuary

An actuary is a professional who specializes in assessing and managing financial risks, typically in the insurance and finance industries. They use mathematical and statistical techniques to analyze data and make predictions about future events, such as calculating insurance premiums, assessing pension fund liabilities, and helping organizations make informed decisions about financial strategies and investments. Actuaries play a crucial role in ensuring that businesses can manage and mitigate various uncertainties effectively.

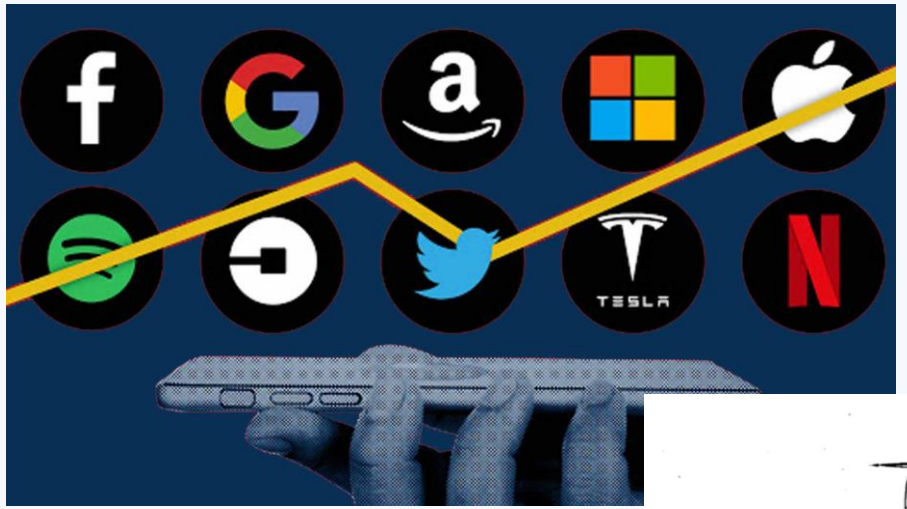
Chat GPT – Definition of a data scientist

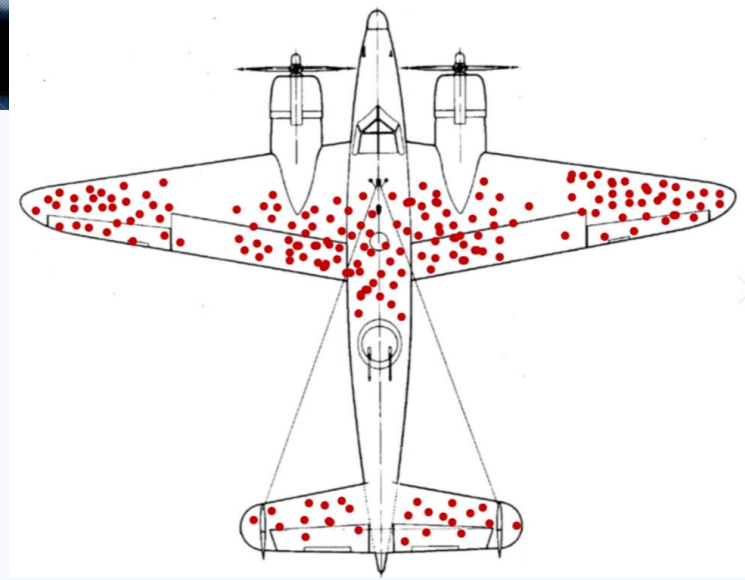
A data scientist is a professional who uses their expertise in data analysis, programming, statistics, and domain knowledge to extract insights and knowledge from large and complex datasets. They are responsible for collecting, cleaning, and analyzing data to discover patterns, make predictions, and informed decision-making. Data scientists work in various industries, including technology, finance, healthcare, and more, and their skills are crucial for organizations looking to leverage data for business intelligence, research, and problem-solving. They often use tools like programming languages (Python, R), machine learning algorithms, and data visualization techniques to accomplish their tasks.

Are they different?

Chat GPT – Differences actuaries and data scientists
Actuaries: ▪ Actuaries primarily work in the insurance and financial sectors, specializing in risk assessment, pricing, and financial planning. ▪ Their work is highly regulated in many countries, and they often need to pass specific actuarial exams and meet stringent regulatory requirements to practice as qualified actuaries. ▪ Actuaries rely on specialized models, actuarial tables, and financial mathematics tailored to their field. Data Scientists: ▪ Data scientists work across a wide range of industries, including healthcare, technology, retail, and more, with a focus on extracting insights from data and solving complex problems. ▪ Data science is a relatively newer field and is less regulated compared to actuarial science. Data scientists do not typically have strict regulatory requirements. ▪ They use versatile tools such as programming languages, machine learning algorithms, and data visualization techniques to analyze data. In summary, actuarial work is tightly regulated, primarily serving the insurance and finance sectors, while data science is a more diverse field with less stringent regulatory oversight.

The Good, the Bad and the Ugly





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The Cambridge Analytica Files
Cambridge Analytica

Cambridge Analytica kept Facebook data models through US election

Exclusive: Social network failed to make firm delete valuable models derived from data until campaign was over

Correspondence between Facebook and Cambridge Analytica conflicts with what Mark Zuckerberg told US politicians. Photograph: Pool/Getty Images

Paul Lewis, David Pegg and Alex Hern

Sun 6 May 2018 14.36 CEST

Facebook's failure to compel Cambridge Analytica to delete all traces of data from its servers - including any "derivatives" - enabled the company to retain predictive models derived from millions of social media profiles throughout the US presidential election, the Guardian can reveal.

Leaked emails reveal that when Cambridge Analytica told Facebook almost a year before the election that it had deleted data harvested from tens of millions of Facebook users, it stopped short of agreeing to also erase derivatives of the data.

How does the Actuarial Profession stay ahead?

- **Code of Conduct**
- **Disciplinary Process**
- **Education Syllabus**
- **Continuous Professional Development** (mandatory starting 01.01.2024)
- **European Standards of Actuarial Practice** (ESAPs – model actuarial standards)
- **European Actuarial Notes** (EANs – educational notes)

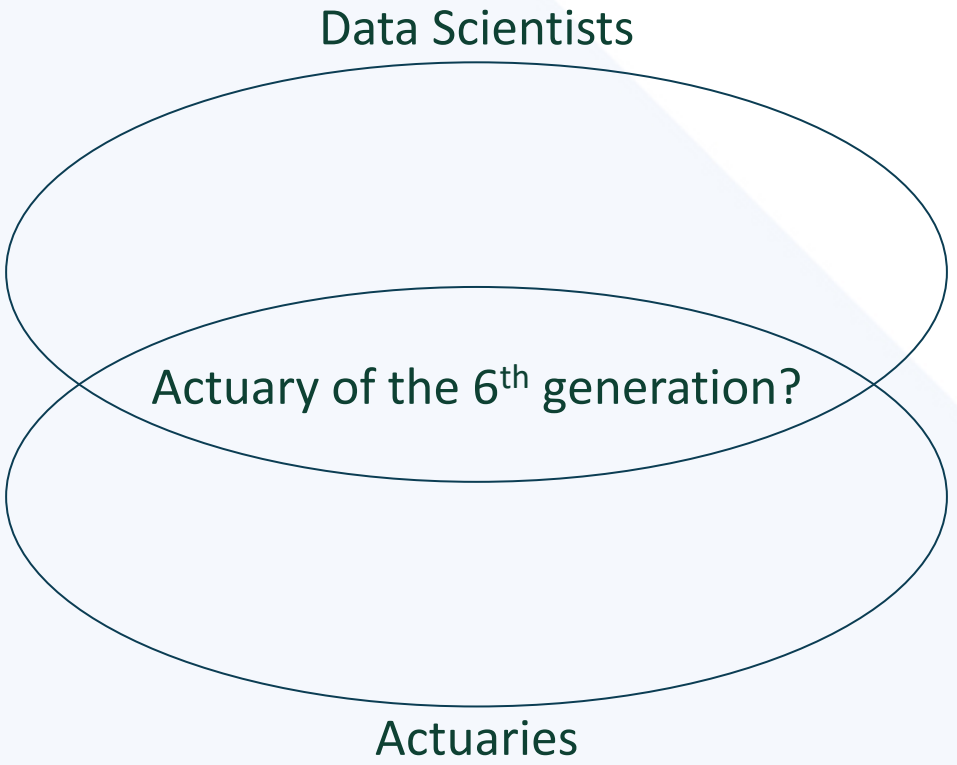
Ensuring the standing of the Actuarial Profession in the future

"Fit and Proper" status recognition of actuaries is the common denominator to ensure the standing of the actuarial profession on country specific and European levels

	Actuarial activity unregulated by law	Actuarial activity regulated by law		AAE possible action points to support its FMAs?
Country level	Actuarial Association of country X sets requirements (Education Syllabus, CoC, Disciplinary Process, CPD and Actuarial Standards). A non-actuary can do the actuarial activity without Actuarial Association's supervision.	Appointment and control **delegated** to a professional body of the country (e.g. actuaries of association X (actuarial or not actuarial association)) or to the employer.	Appointment and control **not delegated** to a professional body or to the employer (e.g. regulator defines criteria and validates the Professional). A non-actuary can be appointed and controlled by local regulator.	▪ AAE to support local FMAs to promote automatic "Fit and Proper" recognition of FQA with their regulator. ▪ AAE to develop and define minimum "Fit and proper" requirements for actuarial activity.
	All activities appointment and control are supervised by the countries.			
European level	AAE defines membership requirements of AAE Full Member Associations (i.e. Education Syllabus, CoC, Disciplinary process, CPD guidelines and European Standards of Actuarial Practice (model standards)).	Appointment and control **delegated** to a professional body of the country (e.g. actuaries of association X (actuarial or not actuarial association)) or to the employer.	Appointment and control **not delegated** to a professional body or the employer (e.g. regulator defines criteria and validates the Professional). A non-actuary can be appointed and controlled by local regulator.	▪ AAE to propose minimum "Fit and Proper" requirements to pursue **Actuarial Public Interest Roles**. ▪ AAE to promote these requirement with undertakings, institutions, EIOPA and competent authorities in their "Fit and Proper" assessments. ▪ AAE to pursue the aim that all Fully Qualified Actuaries are "Fit and Proper".

CoC: Code of Conduct | CPD: Continuous Professional Development / AS: Actuarial Standards / FMA: Full Member Associations / FQA: Fully Qualified Actuary

Conclusion



Only with highest
professionalism standards

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