CAS Actuarial Technology Survey

## How often do you use each of the following tools?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Not at all | Less than once a month | At least once a month | At least once a week | At least once a day |
| R |  |  |  |  |  |
| Excel |  |  |  |  |  |
| Non-Excel spreadsheet like Google Sheets |  |  |  |  |  |
| SAS |  |  |  |  |  |
| Python |  |  |  |  |  |
| Data visualization tool like Tableau |  |  |  |  |  |
| Business intelligence dashboarding tool like PowerBI |  |  |  |  |  |
| SQL |  |  |  |  |  |
| Something else |  |  |  |  |  |

## How proficient are you with each of the following tools?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Not at all | Basic stuff | Intermediate | Advanced | Expert |
| R |  |  |  |  |  |
| Excel |  |  |  |  |  |
| Non-Excel spreadsheet like Google Sheets |  |  |  |  |  |
| SAS |  |  |  |  |  |
| Python |  |  |  |  |  |
| Data visualization tool like Tableau |  |  |  |  |  |
| Business intelligence dashboarding tool like PowerBI |  |  |  |  |  |
| SQL |  |  |  |  |  |
| Something else |  |  |  |  |  |

## How well do you think the following tools are suited for various areas of actuarial practice?

|  |  |  |  |
| --- | --- | --- | --- |
|  | Ratemaking | Reserving | Capital modeling |
| R | *Drop-down rating. Options are:*   * *Unsure* * *Not at all* * *Somewhat* * *Very much* |  |  |
| Excel |  |  |  |
| Non-Excel spreadsheet like Google Sheets |  |  |  |
| SAS |  |  |  |
| Python |  |  |  |
| Data visualization tool like Tableau |  |  |  |
| Business intelligence dashboarding tool like PowerBI |  |  |  |
| SQL |  |  |  |
| Something else |  |  |  |

## What other tools do you think should be added to the list above?

(Open text field)

## For which of the following tools do you plan to increase your proficiency in the next 12 months?

* R
* Excel
* Google Sheets
* SAS
* Python
* A data visualization tool like Tableau
* A business intelligence dashboarding tool like Power BI
* SQL
* Other (please specify)

## What barriers (if any) are preventing you from learning new technology?

* Insufficient/inadequate staff
* Lack of management support
* Lack of IT support
* Financial cost
* Not enough time
* No perceived benefit
* Other (open)

## What barriers (if any) are preventing you from implementing new technology?

* Insufficient/inadequate staff
* Lack of management support
* Lack of IT support
* Financial cost
* Not enough time
* No perceived benefit
* Other (open)

## Which of the following general analytic techniques do you use regularly?

* Linear regression, including GLMs
* Credibility
* Premium adjustment
* Excess loss analysis
* Bayesian analysis, and/or MCMC
* Bornhuetter-Ferguson
* Time series analysis, including claim trend analysis
* AI/deep learning
* Chain-ladder
* Tree-based methods like random forests
* Unsupervised learning methods like clustering or PCA
* Other (please specify)

## Of those techniques listed above which you do not use regularly, why are you not using them?

* Insufficient/inadequate staff
* Lack of management support
* Lack of IT support
* Financial cost
* Not enough time
* No perceived benefit
* Other (open)

## What new technology should actuaries consider adopting that isn’t noted on this survey?

## Is there a question about technology in actuarial science that you wish the CAS would have asked on this survey?

## Please use this space for any additional comments.

## Designation

* None yet
* ACAS
* FCAS

## Age

* Up to 30 years old
* 31-40 years old
* 41-50 years old
* 51-60 years old
* 61 or older
* Prefer not to say

## Where are you located?

* United States
* Canada
* Bermuda
* United Kingdom, Ireland
* Europe
* Asia
* Central or South America
* Australia
* Africa
* Other

## What type of company do you work for?

* Insurance company
* Reinsurance company
* Broker or (re)insurance intermediary
* Consulting Firm
* Other financial institution
* Non-governmental insurance service organization
* Government or regulatory organization
* Academic institution
* Retired
* Other (Text box)

## Approximate number of CAS actuaries at my organization:

* 1-5
* 6-10
* 11-25
* 26-50
* 51-200
* 200+

## How many years of experience do you have working in the actuarial field?

* Less than 5
* Between 5 and 10
* Between 10 and 15
* Between 15 and 20
* More than 20