

# James D. Triveri

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## Professional Experience

2017–Present

**Actuarial Consultant - Reserving Analytics**, CNA Financial, Chicago, IL.

- Primary architect, developer and maintainer for CNA's *Large Loss Expectations* (LLE), a company-wide initiative to develop a single enterprise-wide source of truth for large loss expectations and ranges in terms of counts and loss dollars for all lines of business. Project had 30 contributors and consisted of more than 100K SLOC.
  - ◇ Developed a fully-autonomous, online solution which integrates new claims data on a monthly basis, updating projections to compare actual vs. expected development across lines of business.
  - ◇ Introduced the development team to distributed version control: LLE was the first project within Actuarial at CNA to use Git on a non-trivial basis.
  - ◇ Implemented a robust, automated diagnostic framework which leveraged unsupervised learning techniques to identify potential issues with each month's large loss estimates. The framework was later adopted for use in axillary projects within Reserving.
  - ◇ Created interactive dashboards with R Shiny to help lend insight into LLE assumptions, confidence intervals and point estimates, and to easily compare first and second moment projections for consecutive months.
  - ◇ Reduced the runtime of each monthly LLE invocation by a factor of 40 by leveraging distributed computing and replacing slow-running, CPU-bound R expressions with highly-optimized C++ extensions.
- Developed a classification model to identify fraudulent/questionable claim activity. Leveraged scikit-learn, the canonical Machine Learning library for Python, to implement multiple dichotomous classifiers trained on known instances of fraudulent claims in order to identify questionable transactions on a go-forward basis.
- Introduced Reserving to the concept of creating project documentation with Markdown, a form of text that can be converted to HTML to produce visually appealing documentation.
- Participated in CNA's partnership with *Girls who Code*, a program intended to expose high school students to real world applications of technology and programming.

- 2015–2017 **Actuarial Analyst - Commercial Pricing**, *CNA Financial*, Chicago, IL.
- Key contributor to the *Connect Rebuild*, a complete overhaul of CNA's Small Business rating engine. Made significant contributions to the revised pricing model's proof of concept, testing methodology and ultimate implementation. Leveraged the MapReduce programming paradigm to implement a scalable, robust and reusable solution optimized for multicore computing environments.
  - Founder of CNA's *Python Study Group*, a bi-weekly gathering intended to introduce members of CNA's Actuarial and Analytics teams to the Python Programming Language.
  - Created an environment used to analyze QNT ('Quotes Not Taken') Data, which are transactional records of quoted premium for policies that were not bound. The framework highlighted trends in the Quotes Not Taken which could then be used to adjust rates to reflect risk appetite across region, business type and/or coverage peril.

- 2013–2015 **Actuarial Analyst**, *Centene Corporation*, Chicago, IL.
- Determined rates for qualifying health plans in accordance with the Patient Protection and Affordable Care Act (PPACA), tailored for low income individuals and available through the Federal Insurance Marketplace. Worked closely with the Department of Insurance (DOI) for multiple states, ensuring that health plans were in compliance with local, state and federal regulations, and responded to rate filing objections.
  - Utilized Data Mining techniques to determine an aggregate Risk Score estimate based on the composition of an insurance carrier's enrollment. Designed and implemented an Apriori algorithm which utilized historical Medicaid data to determine whether a member, lacking a diagnosis code for a medical claim, suffered from a condition based solely on the medication prescribed.

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## Technical Experience and Competencies

Ranging from **1 (Novice)** to **10 (Expert)**

- languages: Python (10), R (10), PL/SQL (10), Bash (9), .NET (8)  
authored: trikit: Actuarial Reserving Methods in Python (<https://github.com/jtrive84/trikit>)  
contributed to: ChainLadder (R), data.table (R), Scipy (Python library), Python (language)

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## Education

- 2002 **BS, Mathematics**, *Augustana College*, Rock Island, IL.  
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## Actuarial Exams

- completed: 1, 2, 3F, 4, S, CA1, CA2, VEE  
upcoming: CAS Exam 5: May 2019