

FUTURE FELLOWS

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How to Grow Your Professional Network

By Claire DiOrio, CAWG Candidate Representative


Growing your professional network as an aspiring actuary is paramount in advancing your career, staying current with industry trends, and creating opportunities for yourself. There is so much we can learn from others in the profession. Here are some ways you can expand your network:

1. Attend company events: Make an effort to attend internal events with members both inside and outside the actuarial department. Getting to know colleagues in other departments can lead to new opportunities and potential collaborations.
2. Seek out actuarial mentors: If your company offers a mentorship program, take advantage of it! If not, reach out to your manager and request to be set up with a mentor. If you are not currently in an actuarial position, seek out an actuarial connection via personal connections or social media and request a mentor. Mentors within the actuarial field can provide advice to you on your career journey and may be able to introduce you to other valuable contacts. They may also be able to assist in advising how to prep for various exams!
3. Informational interviews: Reach out to experienced actuaries or industry professionals for informational interviews. Many people will be enthusiastic to speak to aspiring actuaries and be excited to talk about their work and experience. These conversations can provide valuable insights and improve your understanding of the industry and career and allow you to understand all the doors this career path can open.
4. Volunteer and participate in community activities: Engage in volunteering opportunities or participate in community activities related to actuarial work. Volunteering with the CAS is a great way to meet both actuaries and future actuaries. It also is a way to show your interest in the profession outside of work. Not-so-subtle-plug to apply for the



CAWG (Candidate Advocacy Working Group), we author this newsletter and are the voice of the candidates!

5. Attend industry events: If possible, attend seminars and other networking events. For university students, in addition to CAS Student Conferences at CAS meetings, take advantage of any insurance and actuarial presentations at your school and introduce yourself to the presenters.
6. Attend CAS Regional Affiliate meetings: There are 18 Regional Affiliates of the CAS and getting involved with your regional affiliate's events can help you network with other candidates and actuaries. For example, Casualty Actuaries of the Northwest meets twice a year, and there are typically networking opportunities at these events.

There are myriad ways that growing your professional network can help in your career development. We encourage you to try a few! 

Calendar of Events

Introduction to R Virtual Workshop
October 10–
November 21, 2023

2023 In Focus Virtual Seminar
October 19, 2023

CAS Exams 5, 6-Canada, 6-International, 6-United States, and 8
October 23–30, 2023

CAS Exams MAS-I & MAS-II
October 30–
November 6, 2023

CAS Annual Meeting
November 5–8, 2023
Los Angeles, California

Learn More
and Register at
casact.org/calendar

How to Stay Healthy During the Study Season

By Liya Zhang, CAWG Candidate Representative

Looking after yourself during the stressful study season can be challenging. Between exam studies, work and social life, it is often too much to handle at once. While passing your exam is probably the main goal at this moment, you do not want to leave your own health behind. Here are some helpful tips for staying healthy while studying for your exam.

Eat Well

Although studying is different from a physical workout, it's still using a lot of mental energy. Mental activities such as thinking are powered by glucose. The fluctuations in glucose levels may trigger hunger and make you want to eat more. Getting fast food for a meal seems convenient for you, but it lacks nutrients, which could hurt immediate memory and learning processes. Diets high in fat and sugar may have a similar negative effect as well. Make sure you are consuming nutritious food. Foods that are rich in fiber, protein and healthy fats give your body enough energy to help you stay focused and feel full for a longer period. Nutritious snacks such as nuts and fruits are good options as a treat in between study breaks.

Get some sleep

A good night's sleep can help your body stay active for the day. It is essential to maintain your best performance and concentrate on studying. If you are trying to read a few more source materials past midnight and still need to get up early for school or work, the negative impact from low-quality sleep will outpace your study progress, since you could forget what you learned due to a low level of concentration while studying. A good amount of high-quality sleep is essential, especially the night before your exam!

Exercise regularly

If you are someone like me who doesn't exercise at all during study season, this is something that needs to be prioritized in your to-do list. It not only improves your concentration and memory, but it also helps you sleep better and lifts your mood. Physical activities such as jogging or riding a bike to get you moving can help you feel calmer and more relaxed, especially when you sit all day long studying in from your laptop. You may notice that your neck or back starts to feel sore after staying in the same position for a long time. That's a sign that you need to



take short posture breaks. Regular stretching routine can help with this too. When you come back from the break, don't forget to sit ergonomically.

Manage stress level

Have you ever felt depressed to see your friends enjoying their time while you're stuck at home studying? Have you ever been overwhelmed with the amount of study material and scared that you couldn't finish it all? Have you ever felt exhausted and did not want to study after a long day of work or school? It's clear that we're under more pressure when studying for

an exam. Mental health is just as important as physical health. On top of eating, sleeping and exercising well, there are additional things that you can do to help reduce your stress level.

1. **Knowing your best time for studying** can help you set up a more realistic study schedule. You also need to consider your other responsibilities with work/school or family/friends. With designated study sessions, you can maximize your productivity without burning yourself out. During other non-productive times, you can give yourself a break and do whatever you want.
2. Practicing **mindfulness breaks** each day can improve your emotional health and reduce stress levels. Try to slow down during a busy day, close your eyes and take a few deep breaths. Or find a space near the window and take a moment to look at everything there is to see. There are tons of ways to engage in mindfulness. Feel free to search on the web, find one that is suitable for you and give yourself a refreshment to begin a more effective study session.
3. If you feel like you are struggling, **talk to someone**. Another actuarial candidate might feel the same way as you do. When struggling, talk to friends, family, or your personal tutor about how you are feeling. Alternatively, don't be afraid to seek professional help and support.

Now that you know how to maintain a healthy body, it's time to get some study hours in. If you need some advice on that, check out [Finding More Time in a Day: Tips and Tricks to Get those Study Hours In](#) from our September 2022 issue. Also keep in mind, you don't have to sacrifice everything to pass your exam. It's totally fine even if you fail. The key is to find the right balance. **f**

Open Source Opens Doors

By Othon Hamill, CAWG Candidate Representative

“You get what you pay for” is both an idiom and the most common argument I hear against using open-source tools. I’d argue that’s an unfortunate oversimplification. In this article, and with the help of two actuaries with experience in the open-source realm, I’d like to highlight why I think open-source tools will continue to be an important piece of the actuary of the future’s toolkit. Along the way we’ll take a look at three key questions regarding the open-source environment:

1. What is open source?
2. Why should both prospective and credentialed actuaries care?
3. How can skills with open-source tools be developed?

What is open source?

Oxford defines “open source” as an adjective that “denotes software for which the original source code is made freely available and may be redistributed and modified.” To help localize that definition to actuarial work, I reached out to Brian Fannin, ACAS, CAS Staff Research Actuary, who helped lead the internal charge for the CAS to create and maintain an organizational GitHub account (which is an exceptional resource for those looking for sample projects and data). In expanding on the definition, Fannin opined that “beyond the major programming languages [R and Python] the tools that actuaries will most often touch are likely Git and open-source databases,” while the full open-source world also includes “PostgreSQL, the Linux operating system, and open versions of the Microsoft office suite.” The open-source world is a wide one, reaching out to even more exotic options like Hugging Chat, the ChatGPT competitor maintained by open-source AI platform Hugging Face.

Why should both prospective and credentialed actuaries care?

The function of any tool is to improve the efficiency of a given task or process. Open-source tools are no different, and when they prove they can improve the efficiency of actuarial tasks or processes they should be readily embraced. Open-source tools are particularly suited to tasks that are often repeated, require transparency, would benefit from research or support from an outside community, and are sensitive to cost.

To explore those ideas further I met with Stephen Mildenhall, FCAS, a frequent CAS presenter and former member of the CAS Board of Directors who now spends a large part of his time developing his own open-source package Aggregate. After talking with Mildenhall about the biggest selling point of open-source tools, (“The biggest benefit, of course, is that they’re free.”) Mildenhall highlighted



that open-source models foster a collaborative community and that collaborative community extends far outside the actuarial space. He was quick to point out that while the CAS recently (and deservedly!) celebrated the major milestone of 10,000 active members, that’s a small amount when compared to number of contributors to Python’s package Index (PyPI). Since 2022, the number of Python projects available on PyPI has grown by over 125,000, all created under open-source licenses. Who knows what great advancements are hidden in that vast bank of knowledge?

Transitioning from the hypothetical to the actual, a clear example of the benefits of open-source tools can be found within the CAS itself. The CAS GitHub page is connected to Chainladder-Python, a Python R package designed for estimating and modeling outstanding reserves. There’s an R version as well that predates Chainladder-Python. Reserving is a task that’s often repeated, best performed with transparency, honed by research and a vibrant outside community, and can be sensitive to cost. Sound familiar? I’d heartily recommend exploring chainladder distribution as a brief introduction to how an open-source model can immediately impact your actuarial processes. While reserving appears as an easy application, it’s worth mentioning again that the open-source world is an exotic one. There’s a bevy of other articles that can tout the possible benefits of large language models (LLM) like ChatGPT, a tool that is not open source and is already facing scrutiny for a lack of transparency. Open-source LLMs could not only better maintain transparency but also be trained on bespoke data to create models.

To answer why a prospective actuary should devote some time to open-source tools, Fannin summed it up best: “It doesn’t particularly matter which one you learn [Python or R]; any actuary [or prospective hire] with skills in either is more valuable than one with neither.”

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New P&C Predictive Analytics Project to be Required for ACAS Designation – Initial Offering Available in 2023; ACAS Requirement Beginning Fall 2025

Through the Admissions Transformation Plan, the CAS Board of Directors has approved requiring candidates to complete a new predictive analytics project as part of achieving the CAS Associate designation. The Property and Casualty Predictive Analytics (PCPA) project aims to give candidates and professionals in the actuarial field a deeper understanding of key concepts and to improve their predictive capabilities. The PCPA project will have a soft launch in fall 2023 and an official launch in May 2024. The PCPA will be an ACAS requirement beginning with the October/November 2025 exam administration.

A team of experienced actuaries specializing in predictive analytics have partnered with Pearson VUE and The Institutes to create this experiential assignment that uses cutting-edge predictive modeling techniques. The PCPA will incorporate machine-learning algorithms and statistical models to help users identify trends, make accurate predictions and optimize decision-making processes.

“Our expert task force and our board agree that a hands-on modeling project is the optimal way for candidates to demonstrate their practical knowledge and application,” said CAS President-Elect Frank Chang.

The PCPA will be divided into two parts: an examination and a project. Candidates will first need to pass a two-hour, multiple-choice examination on predictive modeling fundamentals, which

will be administered on an ongoing basis at Pearson VUE testing centers. After candidates pass the exam, they will be able to register for the predictive analytics modeling project, which will be administered through The Institutes and available quarterly. From the time they receive access to the PCPA materials, candidates will have two weeks to complete and submit the project. The estimated completion time for the predictive analytics modelling project is 20 hours, which includes preparing, planning, drafting, revising and finalizing the submission.

The P&C (general insurance) project will incorporate access to a wide range of data sources and analytical tools, including historical data sets and advanced visualization tools. This material will enable candidates to gain a more comprehensive understanding of the factors that influence risk and to develop more effective strategies for managing it.

Members who attained their ACAS prior to this new offering will be able to complete the PCPA as a continuing education opportunity. More information about the project is available through an [FAQ](#) that will be continually updated.

To learn more about the PCPA, watch a [short video](#) featuring Chang and others discussing this new ACAS designation requirement. We invite you to learn more about the PCPA Task Force in the August [Working Group Spotlight](#). [ff](#)

Open Source Opens Doors

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How can skills with open-source tools be developed?

Both Mildenhall and Fannin are uniquely positioned to opine on this question. I first met both while attending a series of virtual Python workshops they were co-teaching for the CAS. Fannin still teaches the R workshop regularly and has been impressed by the continued demand for the course over the years. “We’re easily getting 30 attendees for each workshop, and relative to the number of candidates and actuaries, that’s not an insignificant amount,” he said.

While the CAS does provide limited training, there’s also an abundance of free or self-guided training materials out for virtually all open-source tools, particularly R and Python. A quick Google search can reveal a wide world of free training and walkthroughs, but ultimately familiarity can only come with practice. Mildenhall’s advice to all learners is a great distillation of the process: “Learning to program is not a spectator sport. It’s a hands-on activity. Have a problem you’d like to solve and get to it!”

I heartily agree that there’s no substitute for getting your own keyboard clacking. As a student, that familiarity can often be built into

introductory programming classes. Take them if you can! Of all the classes I took during my college years, introductory and applied R programming courses were arguably the credit hours most applicable to my day-to-day work. As a professional, it can be a little tougher, but a formal development plan with clear goals and a supportive manager can go a long way, as will mentors and coding study buddies. I’ve found that those experiences not only expand an actuary’s skills but also often open doors for employment and collaborative research opportunities.

Open-source tools turn “you get what you pay for” on its head, promoting a freer exchange of ideas and driving forward progress as community. Next time you begin a project, look for a training goal or start some research, I’d highly recommend a thorough investigation of any open-source options. At the end of your project, your expense ratio might even thank you. [ff](#)

Practical Professionalism

By Laura Hemmer, FCAS, CAWG Volunteer Chair

This is the third installment of our Practical Professionalism series, where we use an example to discuss what professionalism means to actuarial candidates. The primary areas of focus are the [Code of Professional Ethics for Candidates](#) and the [CAS Code of Professional Conduct](#) which applies to CAS members, along with the Actuarial Standards of Practice (ASOPs) that an actuary must follow (or similar if practicing outside the U.S.).

Here is our hypothetical scenario:

An actuarial candidate has just begun a new job at a different company. The actuarial department was halfway through a reserve analysis when the prior actuary left, and the actuarial candidate is feeling pressure to pick up and finish the analysis quickly. Complicating matters, this is a line of business that the candidate has not worked with directly before, but they are hesitant to ask their supervisor a lot of questions in case it looks like they can't do the job. The actuarial candidate uses the prior actuary's data and work without reviewing or checking it and finishes it using their own limited knowledge.

This is a situation that happens all the time. You jump into a new role and want to start contributing right away. You feel pressure (whether it's internal or external) to get things done, and that can lead to cutting corners. What parts of the *Candidate's Code* apply here? I would argue that Rule 1 is being at least somewhat violated. An actuarial candidate is charged to act "with integrity and competence." Picking up someone else's work without at least checking it is not acting with the highest integrity. Since this is an unfamiliar line of business to

the candidate, they should be working closely with their supervisor on the analysis, rather than displaying a reluctance to ask questions.

Several ASOPs could also apply to this work. In particular, ASOP 41 focuses on Actuarial Communications, including oral communications. This ASOP would require the candidate to disclose their reliance on the prior actuary's work at the very least, including each material assumption and method where they relied on another. The ASOP also requires that the actuary make a judgment about the reasonableness of the prior actuary's work unless they are not qualified to do, which again, they would need to disclose.

ASOP 23, Data Quality, could also come into play here. This ASOP requires the actuary to select appropriate data for the reserving analysis. If the actuarial candidate is relying on the prior actuary's data without checking, then they will be unable to make sure the data is appropriate. Similarly, ASOP 43, P&C Unpaid Claim Estimates, also requires actuaries to consider the reasonableness and appropriateness of each method, model, and assumption used.

A better course of action for our newly hired actuarial candidate would be for them to meet with their supervisor before starting the work and disclose where they need guidance in this reserving analysis. They should also review the prior actuary's work in as much detail as time allows, to make sure they understand the data, assumptions, and methods used. This will allow them to make a good start with their new employer, turning in a work product they can stand behind. **ff**

CC'ME – Casual Conversations with Meaningful Engagement!

The CAWG kicked off a new series with the goal of taking your questions and answering them in each issue. We invite you to send us your questions by emailing CAWG@casact.org. All questions will be posted anonymously and answered by members of the CAWG.

Q: Can I volunteer as a CAS candidate?

A: Yes! Candidates can volunteer with the CAS. One opportunity is with us, the Candidate Advocate Working Group, as a Candidate Representative. Representatives contribute an important perspective to the goals and objectives of the working group.

Representatives are selected through an [application process](#) conducted every year, and the current application window closes on September 30. Learn more about volunteering at any stage of membership in the CAS in the [June 2023](#) issue of *Future Fellows*.

Candidates can also volunteer as University Liaisons and help the CAS increase its presence on college campuses through a variety of suggested activities. Liaisons typically work with the schools they graduated from or schools near their current employers. Learn more about University Liaisons on the [CAS website](#). **ff**

Pay Attention to NDA Restrictions on Discussing Exams

By Shannon Osterfeld, CAWG Candidate Representative

The Non-Disclosure Agreement (NDA) and other similar CAS policies play an important part in helping protect the integrity of the CAS certification process and ensure that no candidate is receiving an unfair advantage. Once you finish your exam it is very tempting to want to immediately discuss it with others. However, all candidates agree to abide by the NDA when they sit for an exam, so it is important to understand how to comply with the NDA.

When it comes to the NDA, the same rules apply whether you are talking in person to a coworker or posting on an online forum such as Reddit or Discord. It does not matter if it is one day into the exam window or a week after results, the NDA applies consistently year-round.

Generally, disclosure of any of the contents of an exam is strictly prohibited without the express written consent of the CAS. For example, a statement such as “the K-means clustering question was very difficult” could be viewed by CAS as a violation of the NDA. Other examples of prohibited disclosure could look like the following: “To solve the Time Series question, I...” or “We had to construct much larger triangles than I expected.”

While exam study groups can be very beneficial while studying for any of the CAS exams, such groups should avoid discussing or reviewing any examination-related content unless that content has been made publicly available by the CAS like past Examiner’s Reports.

If you encounter individuals or groups that may be disclosing unauthorized CAS exam content, you should cease all participation with those individuals or groups and immediately notify CAS. Even if you do not personally further divulge the information, merely receiving the unauthorized disclosures or knowingly allowing other candidates to disclose the unauthorized content could be deemed by CAS a violation of the NDA or other applicable CAS policies.

When it comes to the NDA, it is important to distinguish what is generally considered confidential exam content. The Syllabus of Basic Education, individual Exam Content Outlines, or other publicly available information released by the CAS are generally not considered confidential exam content. In the event some information might have been available to candidates historically but has since stopped being released by the CAS, it should be presumed that the information is no longer permitted to be discussed. However, nothing in the NDA

prohibits discussion of specific information that was provided in the syllabus of a CAS exam.

The rigorous CAS exam process is an integral part of the reputation of the actuarial profession and therefore exam misconduct, including violations of the NDA, are taken very seriously by the CAS. In addition to any legal remedies available for breach of contract and intellectual property infringement damages resulting from the unauthorized disclosure of CAS exam content, candidates who violate the NDA terms could be subject to the CAS Examination Discipline Policy. Additionally, the matter may be referred to the CAS Discipline Committee for further inquiry. Associate members could also be referred to the Actuarial Board for Counseling and Discipline.

To ensure fairness and protect the integrity of CAS exams, misconduct should be reported through the online form (bit.ly/3LnIUd5) or by emailing misconduct@casact.org. CAS members are obligated to report misconduct per the Code of Professional Conduct.

Additional questions related to the NDA can be directed to casexams@casact.org. [f](#)



ATP News!

As [previously announced](#), the CAS is pleased to introduce an exam break during our four-hour exams, starting with the upcoming Fall 2023 exam sitting. Each exam administered at a Pearson VUE testing center will include one 15-minute break. The time taken during the exam break will not be counted towards the overall exam duration. For candidates registered to take an exam this fall and beyond, a [FAQ](#) is available and any additional questions can be sent to casatp@casact.org. [f](#)

Learn more about
the CAS Admissions
Transformation Plan at
casact.org/atp



The Candidate Advocate Working Group Mission

The Candidate Advocate Working Group (CAWG) focuses on issues of importance to candidates who are pursuing CAS designations. It serves as a direct point of contact for candidates to engage with the CAS and admissions working groups by sharing their thoughts and feedback. The CAWG also supports candidates' career advancement by advising candidates of resources available to them. The working group utilizes various communications tools, such as the quarterly *Future Fellows* newsletter, to engage candidates and provide information on topics of importance. Candidates may contact the Candidate Advocate Working Group at CAWG@casact.org. The Casualty Actuarial Society is not responsible for statements or opinions expressed in articles, discussions or letters printed in *Future Fellows*.

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