"The members of Board of Student Actuaries (SAM) at Michigan is making extraordinary efforts to bring extremely valuable information to the member of SAM. The SAM Newsletter is yet another example of SAM Board's commitment to expand your knowledge about the actuarial profession over and beyond what you learn in taking various actuarial courses at the University of Michigan. I want to wish nothing but success to each and every member of the Board of SAM in their outstanding efforts to start and maintain publication of this Newsletter.”

-Prof. Natarajan
Table of Content

Interview Tips, by Huan Wang ... 3

Selected Article:

What is Bitcoin? by Rui Dong ... 4

Photos, by Yuki Xin ... 7
Interview Tips

Huan, Vice-President, SAM

1. Pre-interview phase:

- **Search online for the most typical interview questions** that are usually asked by interviewers regarding to both behavioral and technical aspects.
- **Brainstorm some of your experiences** that precisely answer the question AND demonstrate your sparkling capability.
- **Draft out your response in the concise and eye-catching way.**
- **Do your research on the company** that you are going to interview with. Dive into their official website and know about their basic information, their structure, their business and their latest news.
- **Be sure to attend their information session**, if they are coming on campus, and talk with company representatives to hear about their opinions towards the company.
- **Practice your draft for answering typical interview questions** over and over again, and either join our mock interview events or invite your friends to give you a mock interview. Usually, even though you think you are familiar with your drafted answers and ready to nail the interview, a mock interview will expose some unexpected flaws and is a process for building up your confidence.

2. Interview phase:

As illustrated in many interview tips online, stay confident, keep smiling and don’t be overwhelming nervous. You can feel if there is a click between you and the interviews. If you feel that what you talk about excites the interviewers, it is very likely you nail this opportunity.

By the end of the interview, interviewers usually will ask you if you have any questions for them. Never say “No, I don’t have any.” This is the time to show interviewers that you did research and had strong interest in working for them. And there are cases where the quality of the questions you ask to the interviewers determines whether you will be given an offer or not.

3. Post-interview phase:

Writing a thank-you note is a routinely courtesy, but how could you stand out from all the thank-you notes written by all the interviewees? There was one case where the interviewer told the student that he wrote articles for CAS. So this student kept this in mind and did find one article written by this interview to read. And in his thank-you note, he mentioned that he read his articles and would follow up on this. And this student got this job at last. This shows his passion for this job and strong desire for learning. Not everyone will face the similar scenario like this, but as long as you put heart into it, it will be paid off.
Selected Article

WHAT IS BITCOIN?

By Rui Dong

*Wall Street Journal* has been blogging about it, Dell.com started to accept it as purchase payments, and you probably have heard it many times but are still confused about what exactly it is. Bitcoin is the first ever cryptocurrency. Most of the attention from the media has been focused on Bitcoin’s price, and the fact that it allows for money laundering and drug trafficking.¹

For the start-ups such as bitpay and BitFury, who have raised $30 million and $20 million respectively, and the venture capitals, who have invested a total of $250 million in cryptocurrency startups as of first-half of 2014, they see something more than the price.² Simply put, they see it as a technology that has the potential to disrupt finance.

The questions that I get the most often are:

- Who “owns” Bitcoin?
- How are they created?
- Is Bitcoin money?
- How is this relevant to actuaries?

Bitcoin has put the way finance work on its head and completely changed the way digital assets can be used, stored and traded. I will attempt to explain exactly how this is accomplished and provide some resources for those who are willing to dig deeper.

**Who owns, creates and secures bitcoins?**

Bitcoin started as a project by Satoshi Nakamoto.³ The goal for this project was to create a system where money could be sent without trusting a third party. Bitcoin itself is an open-source project. It means that no one owns it. To join the network, everyone needs to have a compatible version of the software—choose your Bitcoin Wallet. Anyone can contribute to Bitcoin’s source code. As of now, there are a few core developers pushing for changes and updates within the software.⁴

Bitcoins are created in a way that is intimately linked to how Bitcoin transactions are secured. The genius of Bitcoin is the fact that it allows for consensus throughout the network to emerge by a process called proof-of-work. The proof-of-work solves an important problem in computer science that originated half a century ago. There were previous attempt at solving the Byzantine Generals’ problem but none really succeeded until now.
In the current financial system, people reach consensus and guarantee the legitimacy of financial records through a central entity. Be it bank, Paypal or a credit card processor, they all hold a central ledger that they are responsible for. When a payment is made either online or in stores, they take care of making updates to their central ledger.

Cryptocurrencies do it in a completely different way. There are no central ledgers. Instead, “everybody who runs the (full) software has their own copy of the ledger.”5 This means no one has the power to cut off another connection, confiscate their assets, or charge them an unfair fee. The magic of Bitcoin was a way to incentivise people to maintain these ledgers in an honest way by paying those doing the work with bitcoins (mining).6 How this exactly works takes a while to grasp but the end-result is a cryptographic based system that incents everyone who is in the network, to secure the network.

Is Bitcoin money?

Legally, Bitcoin has been classified as property in the United States.7 The Canadian government just tabled a bill to regulate virtual currencies.8 Germany has recognized Bitcoin as private money.9 China has banned its financial institutions from Bitcoin transactions.10 Needless to say, regulator and politicians are starting to pay attention to this technology and figuring out how to protect their citizens and country. (Here is a list of Bitcoin’s legal status around the world.)

Socially things are a bit different. Sea shells, Rai stones, precious metals, and even Tide are used as a medium of exchange. It is “money” as long as one can spend it (there are thousands of online and offline locations to spend bitcoins). Currently, it is very confusing for the average user to acquire, store, and spend bitcoins. It needs to reach a point where everything is easy; someone needs to do with Bitcoin what Apple did with personal computers. Company such as Coinbase, Bitpay, CIRCLE and Blockchain are at the forefront of this effort, building a one-click solution for merchants and customers.

Why is this important to the insurance industry

Blockchain technology makes Bitcoin possible.11 While Bitcoin is the first application of this technology, there are already companies and startups that focus on other innovative applications.12 This technology allows a way to transact without a trusted third party. It does not have to stop at currency. It could be a parking ticket issued over the internet, or a digital “pink slip” as proof of ownership. Bitcoin 2.0 platforms are being built to fulfil promises of decentralising exchanges, prediction markets, cloud storage, and name registry.13 One of such platform is called Ethereum. The hope is to create a platform on which anyone could write smart-contracts. Ultimately the developers are looking to build decentralised autonomous organizations (DAOs).14

What about decentralized insurance? This might still be far down the road, but one thing is for sure, technology is breaking up the traditional value chain.15 With technological advancements, we will see more policies being sold online which are managed by independent brokers, claim adjusters, underwriters and actuaries. With the help of decentralised applications, anyone would be able to write a
smart insurance policy, find a third party that is willing to hold the risk, and automatically treat for 
premiums, payouts, lapses and expiries. 
Imagine a decentralised and secure database that every insurer and reinsurer has access to instead of 
segregated database costing millions to reconcile and audit. Data and events are updated on the go with 
calculations of reserves and premiums done in real-time. There is a reason why so many bright minds 
are attracted to Bitcoin and its underlying technology. What we have here is a quantum leap towards 
what money and digital assets can be in the 21st century. 
For those who are curious, Khan Academy has a series of videos that explains the technology that 
supports Bitcoin. 

Besides Bitcoin, Rui is currently helping to check if people are doing what they say they are doing in 
Internal Audit. He can be reached at Rui.Dong@londonlife.com 

Photos

Yuki Xin, Planning Chair, SAM

FestiFall

Mass Meeting

AALC Meeting