

Lecture 05 - How wealth is created (Blockchain, AI/Classification)

Most of you came to university to create a career - basically to make money. So let's talk about money!

Let's talk about averages for UW graduates.

Average salary for starting with a bachelors in Computer Science is \$79,900.00, UW is a little above average, \$82,000.00.

Average US student loans are \$41,000.00. UW is much better at \$22,800.00.

So... You start out ahead from the very beginning! That's always good.

Now, if you follow the "banks" financing plan for student loans, you will pay off the loan in about 25 years and pay roughly 3x the value of the loan - so you will pay about \$46,000 in interest - the total is a \$68k . Back before the pandemic I used to go to the bank - I won't say which one I use - but both of the banks that I use have a basket with lollipops on the counter. They fill it up for the customers with "Dum-Dums" - I have always wanted to ask if that is a comment on the customers!

So ... Let's talk about Rich.

Rich graduated from UW with a Masters in Computer Science at the same time as I did. So... Roughly speaking we started at the same point. He worked for 32 years for the same company and just this year took "retirement" from the company.

His career path is a perfect example of staying "between the lines."

Here is how a "job" works.

You get hired. For about 5 to 7 years you get raises. After that you get cost of living - that is because a job is really only worth what is worth. SO after about 5 to 7 years you get payed what the job is worth - not what you are worth.

You can move to a better job that pays more. After 15 years Rich got a MBA and moved into a management position and raised how much he made.

So on average a UW Computer Science student will start at \$82k and over about 6 years that will grow to \$102,200 - right at the national average.

So ... 102k is good! This is not a job at McDonald's. I worked at McDonalds. I have tremendous respect for McDonalds.

Now if you do what Rich did - You get a good car, get married, have some kids, and have a good house in the burbs. You finance the car for you and one for your wife, ... But at the end you basically spend all you make. Rich married a RN - that is like a masters in nursing. 2 good paying jobs.

Don't get things wrong - I have worked and I think getting a good education is important and a good job is a wonderful thing.

I think that a job - if you use it wrong really stands for Journey Of the Broke. At the end of 32 years of work Rich had saved approx. \$400,000.00 for retirement. Between the two of them they were making over \$200k a year.

His employer has a defined benefits retirement plan. Hers had a 401k. So... They are over 62 - old enough to get Social Security.

They have made somewhere north of 4 million - and at the end all they have to show for it is - a payed off house, \$625k, \$400k savings and social security and a retirement check of \$1420 a month.

SO... not broke but not really wealthy - notice that house + retirement makes Rich and wife millionaires! But if you pull out all of your wealth from a house - you sell it - you now need a new house - most people want someplace to live. Millionaire and living on the street as a bum is not most people's plan in life.

If you have no "financial plan", you are likely to end up where you plan to end up. Nowhere.

The averages are grim. 95% of people in the US spend all that they make. 41% - according to the Bureau of Labor Statistics could not cover a \$400 emergency. So if the fridge fails and they need a new one they are going to finance it - probably on a credit card at 18% interest. The average US amount of savings at age 65 is \$200. So if you are thinking that you are a poor student - if you have more than \$200 you are ahead of the average 65 year old after decades of work. This is the "result" of not having a plan.

Now you don't have to have a plan right now - just finish your degree - it is very valuable and you can get a good job with it.

My goal when I came to college was to catch a girl! I spent 10 years getting a BS and a MS and - a wonderful wife - we are still madly in love - after 32 years of marriage.

So not all goals are for money. There is lot's of other things in life - and important things to have goals for. But... On an average day some money and a plan for financial stability is usually a good way to create long term happiness. I am going to say it.

Sufficient Money Creates Happiness

A job of money will not change your happiness - but enough money so that you are not just scraping by from month to month will make you much happier. A new car will get you happiness for a week or two. After that it is just a question of safety, reliability and transpiration. That is the way most *things* work.

If you go out and get a job, get a new car financed over 6 years, (don't worry it will be worn out in 6 years and you will get a new one), and then go looking for a house. You save for a year or two - down payment, a house in a good neighborhood. Paying for it for 30 years - on a mortgage. These are all good things - but the reality is that this is now how wealth is created. This is what most people with good degrees are doing. Remember the 95% dead or broke at 65. The first time I heard that statistic my "bullshit" meter red lined. No way - richest country in the world - can't be true. So... Don't believe me. Go out and do the research for yourself.

Now you need "enough" money - basically if you have enough so that you don't really need your job - you will find that you are at a much lower stress level and a much happier place. This is financial independence. Think about a few scenarios.

Your employer fails - and you have enough to live on - so you are not desperate - you relax and go find a new job in the next 3 or 6 months and you go on.

The project you are on ends and you get paid off... No big deal.

Both of these things have happened to me... How about this one... Your boss wants you to do X - in my case travel to a new location for months - and you don't want to do X. Supposedly this is voluntary. Reality is that your boss says to you, "If you don't do X ... You won't be able to pay your mortgage." Basically he tells you that if you don't do it - you will get terminated. To which I told my manager, "Unlike you I don't have a mortgage. I paid for my house on the one-payment plan and you can't use that to manipulate me." Three hours later I had a different job.

How is wealth created

First... Not all wealth is financial. Beethoven created wealth when he wrote music. The world was a better place. That is not money.

This points at our second financial myth which is that the world is a zero sum game. That is that the rich get richer and the poor get poorer. It is not a zero sum game. When you create a new thing that is useful, beneficial - then the world is a better place. It is not zero sum. You can "create" wealth.

Some “wealth” is just of benefit to lots of people - without creating money. For example. Let’s say that you create a system that eliminates malaria. 600,000 people a year die from malaria. 15,000,000 are critically ill a year from this disease. Malaria has killed more people than all the wars, all the famines, all the diseases in all of human history. Let’s say you give it away. Most places with this horrible disease are not wealthy - so you just give it away. The world is a better place but you have not made money.

There are 2 factors that create wealth.

They are time and leverage. Generally speaking things that create wealth also involve some risk. There is not much risk in what Rich did. You are averaging your income with a bunch of other people in a large business. This eliminates most of the risk. You can decide to go for a business and plan on moving up the ranks into a senior management position. That will pay lots more than just being a developer. You will now be making decisions that involve risk - for the business - and you will get payed more. A lot more! If you want to do that we have a person sitting in on this class, Dr Corey Billington a professor in business, that was a Senior VP at Hewlett Packard - and he has a plan, “Claims to Fame” that he teaches in his business classes. It will work and get you there. Go take his classes in business - you can use that information as your leverage and become wealthy.

You can invest in the stock market. Smart investors in the stock market will make good money. It has some risk, but on average you can make a decent return. I have and I continue to do this. Leverage in this case is using money that you didn’t spend and having that money make money over time. I think you should get good at this and do it.

You can own rental property. In this case you will take some of your money and probably some money from a bank, the leverage, and combine it into a long term plan to turn that leverage into wealth. I have done this in the past - and helped others to do this. It works. Again --- you have to be relatively smart about how you go about doing it. You want to get decently priced property - that has a good track record of rental. Don’t get yourself pulled into the zero-down stuff. Plan on putting about $\frac{1}{2}$ down - so that if you have a rental that is empty - it won’t cause you anguish. Think ahead at this being a business. The purpose of a business is to make money. Over time your “commercial real estate business” has to make money. There are tremendous tax advantages. We are going to walk a scenario along these lines.

In computer science you also have some other alternatives. In these cases the leverage is the “technology” itself. Blockchain is one of these. Artificial Intelligence - classification of data is the other. Forecasts for Blockchain are that it will be roughly 3% of the world economy in 15 to 20 years. That is *huge*. Forecasts for AI are that it will replace between 25% and 45% of *ALL* - of *ALL* jobs in the world.

This is *way way* more opportunity - right now - than all the IT / Computer / Web stuff in the past 30 years.

The Bureau Of Labor Stastics spent \$5.6 million studying AI - figuring out what businesses are most likely to be automated - so if you want a list of hundreds of billion dollar business - then they did the research for you. The research is on what jobs are least likely to be automated. Just look at the bottom of the list - flip it upside down and say - what is most likely to be automated. Go and build one of these. Get good at it!

I wanted to build a product company. After some analysis and research I determined that a product that automated what Database Administrators, DBAs, do - would be a good product. I had never worked as a "DBA". So I purchased every book on the subject, 43 of them at the time, and I read all of them. I got a job as a DBA. I learned the thing that I wanted to do a product in. I raised VC, built a company and sold it in 5 years.

So if you don't know about X - then good. Learn it. Get good at it. Automate it. Figure out how to monetize the automation and you will make money.