

NOW & NEXT – Season 2, Episode 1 – EN Transcript

- Leora Kornfeld: [00:08](#) Welcome to Now & Next. This is a podcast that looks at the ways technology is changing media and entertainment, and it's brought to you by the Canada Media Fund. I'm Leora Kornfeld. For years, people have been trying to figure out ways of getting past the gargantuan failure rate of the entertainment industry, and it really is huge.
- Leora Kornfeld: [00:33](#) Generally somewhere around 90 percent of projects don't make any money. Sure, you can improve your chances of a hit movie by adding star power or the hot director of the moment to your project, but getting any sort of statistical handle on what was likely to work and what wasn't, that wasn't really a thing yet, which leads us to this episode.
- Leora Kornfeld: [00:57](#) In just a second, you'll meet Jack Zhang of the AI company Greenlight Essentials. Jack is a Waterloo grad who has devised a machine learning based system that breaks parts of movies down to their core elements, and there's tens of thousands of them in total that he's identified, and this information becomes part of a huge database that then makes predictions about a movie's likelihood of success.
- Jack Zhang: [01:24](#) All the available information online's just exploded in the last five years. There's gold information in these data sets that you can mine out insights for producers, investors, financiers, distributors, sales agents to use to better maximize their financial return in the marketplace.
- Leora Kornfeld: [01:44](#) And I know what you're thinking: this sounds incredibly mechanical, and this isn't the way a creative industry should work, and I get that. But guess what? Jack has some evidence that it can actually work.
- Leora Kornfeld: [01:58](#) Early on, he put his own money on the line to test his system. What he did was essentially day trading on movie studio stocks using the predictive analytics data generated by his system, and five times out of six, he was right.
- Leora Kornfeld: [02:16](#) Jack Zhang is going to explain what it is that he's built and how he went from being just another guy from Waterloo with some interesting software to a guy from Waterloo getting attention in Hollywood and now actually involved in making movies that were born on his platform.
- Jack Zhang: [02:37](#) Movies always been a big part of my life while I was growing up, especially when I came here as a teenager, a first generation immigrant. I didn't even know basic English when I first came

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here. I came here in the awkward age of grade nine in high school when every group is kind of forming, and nobody wants to be a friend with someone who doesn't really speak their language.

- Jack Zhang: [03:04](#) Film kind of became my friend that would teach me English in high school during the tough times when I first came here, and that's when I really fell in love with film. It's something static that could evoke an emotion, and when you go back to a lot of great films, based on your experience in life, you view it differently.
- Leora Kornfeld: [03:27](#) What were some of the films that were really, really influential to you at that time?
- Jack Zhang: [03:32](#) Godfather was a great one. Shawshank, and then basically the IMDB top 250. I was just going through-
- Leora Kornfeld: [03:40](#) You went through the list?
- Jack Zhang: [03:41](#) Essentially going through the list one by one. There are some that really haunt me, such as Requiem for a Dream. I don't know if I was supposed to watch that when I was a kid, but that movie really made me not want to touch drugs, which is a good thing.
- Leora Kornfeld: [03:55](#) Not only that, if you're watching stuff like Requiem for a Dream and Godfather and Shawshank, you're also learning some unusual English.
- Jack Zhang: [04:02](#) Yes, yes, yes, something that you don't really hear in the school, but later on after watching those films, I really fell in love with a Kurosawa's films. Seven Samurai was classic cinema. During his time in the '50s, '60s, '70s, it's just amazing how he made his film and how that came to inspire great filmmakers like George Lucas, Spielberg.
- Jack Zhang: [04:28](#) It was later on in my life when I went to University of Waterloo, studied mathematics, and especially in statistics that I started to have this idea of combining the two together. It's both my passion, and it was great timing because I remember in one of my statistical learning class ... Back then before it was called machine learning and AI, it was called statistical learning, and you have to [estimate 00:04:53] functions based on data sets.
- Jack Zhang: [04:55](#) In that class, you had to make a final project based on real world data, so I thought why not use movies and see what the algorithms that I learned in class could do, and there is pattern.

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- Leora Kornfeld: [05:09](#) And this is where we get into that whole Moneyball for movies. Is that a fair analogy? And what is money ball for movies?
- Jack Zhang: [05:16](#) It's a statistical empirical data analysis on films, essentially. Millions of people are on social media. They're posting all kinds of information about themselves, and all the available information online has just exploded in the last five years.
- Jack Zhang: [05:31](#) There's gold information in these data sets that you can mine out insights for producers, investors, financiers, distributors, sales agents to use to better maximize their financial return in the marketplace.
- Leora Kornfeld: [05:46](#) And whether it's Moneyball for baseball or Moneyball for movies, the idea is to identify what are undervalued assets, right?
- Jack Zhang: [05:55](#) Exactly.
- Leora Kornfeld: [05:56](#) The idea in baseball was what? The Oakland As and the-
- Jack Zhang: [06:00](#) It's the base percentage and all of that.
- Leora Kornfeld: [06:03](#) And they had a limited amount of money, but they had to compete with the big guys, which is kind of the idea behind your software, right? What were the undervalued assets that you found in the movie industry?
- Jack Zhang: [06:13](#) Yes. The film industry, even today, it's mainly driven by talent, big names, and when we talk about talent, it's really how popular they are. When we look at films, we do look at talent, but more importantly, we look at the story of the film because talents cost a lot of money, but stories, they don't cost a lot.
- Jack Zhang: [06:36](#) You can change your shape of your screenplay however you want, but historically, there's no way to tell what kind of stories the audiences would like. But from data mining, using our natural language processing tools that we have, we can see what kind of a combination of stories that audiences really liked based on their past actions.
- Jack Zhang: [06:59](#) Instead of a creative person saying, "The story flow should go this way and this way, this way," we can say, "This is the type of relationship that audiences for 20 years have been liking. We found these kinds of relationships in this genre," say mother and daughter relationship, husband and wife relationship, "in horror films consistently works, and not for all horror films but a

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special type of horror films that we can slice and dice and see what combinations of plots we should put into film to maximize that demand among audiences."

- Leora Kornfeld: [07:35](#) And when you're doing something like this, the data set, the training data for the system, the machine learning system, is really important. How did you construct your data set? How do you begin? Because you got to have a really good bucket of data to even to start this kind of analysis.
- Jack Zhang: [07:49](#) That's a good question. We actually built our own database from both private sources and public sources data. For our own data, we actually hired people watching thousands of films and say, "Tell our system, help to train our system what the film is about."
- Jack Zhang: [08:06](#) They would watch, for example, Star Wars, is about sci-fi. It's space opera, all that, all these elements. They'll digest this film and tell our system, "This film's about that," so our system, in the future when a script comes in, it's able to say, "This film is about this, this, this, and these elements really work together. These elements, not really."
- Jack Zhang: [08:29](#) And we can give notes back to the writer and producer and just say, "You really need to focus on these elements, and if you put these ones in, replace the bad ones, your chances of success will go up."
- Leora Kornfeld: [08:40](#) But populating that kind of database sounds incredibly labor intensive.
- Jack Zhang: [08:45](#) It was. We went through almost a year of data cleaning process. I started collecting data since 2011, so it's been a long time.
- Leora Kornfeld: [08:55](#) And were you just finding people randomly to do this, or how do you get the people to do this?
- Jack Zhang: [09:00](#) We tend to focus on people who have a film background, film or TV background. Since costs has been a big issue as a startup, we found that film school students are a really good source. They have a passion. They have knowledge.
- Leora Kornfeld: [09:13](#) They work cheap.
- Jack Zhang: [09:15](#) They work pretty cheap, but more importantly is that they have the skill set that also fits into what we're doing.

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Leora Kornfeld: [09:29](#) Here you are, just a kid in Waterloo. How old were you at this time?

Jack Zhang: [09:33](#) When I started the company?

Leora Kornfeld: [09:34](#) Yeah.

Jack Zhang: [09:35](#) I was full time. I was right out of college and was 18, 19.

Leora Kornfeld: [09:40](#) In Waterloo, which some people say it's like the MIT of Canada, there's a lot of people that age with a lot of great ideas, and they've got startups, and they've got software that they've built. And here you are, you've got this idea, and you think not unlike Moneyball, "I think I found a better way to do this. I've got this great idea."

Leora Kornfeld: [10:00](#) You want to get it out to the world, but how does somebody like you in that position then get people in the film industry to pay attention? What are your first steps towards that?

Jack Zhang: [10:11](#) Well, first of all, I think we all need a what we call MVP, a minimum viable product. You need something that works and you can show people that works. After that, it's a lot of knocking on their doors, knocking on Hollywood doors, and a lot of nos.

Leora Kornfeld: [10:26](#) When you say knocking on Hollywood doors, does that actually mean knocking on doors, or just sending out cold emails and stuff like that?

Jack Zhang: [10:33](#) Cold emails, cold calls, and attending film markets. In Canada, even though Waterloo is not really a film culture city, but Toronto is a very culture-driven city, and one of the advantage that we have here is TIFF.

Jack Zhang: [10:48](#) And I was lucky enough to be invited to TIFF in 2015. That was the first time I spoke at TIFF, and that just spurred a lot of interest.

Leora Kornfeld: [10:58](#) What were the initial reactions that you got to the system?

Jack Zhang: [11:02](#) The initial reaction was quite mixed. You have this tension between the creative and the suits, and then this thing comes in the middle, but over the years, it starts to change. People have more examples of how data can help them do things better.

Jack Zhang: [11:19](#) And slowly, I think people, especially producers and even creatives, are changing their perspective on these things. We're

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not limiting your creativity. We're showing you what audiences want. You can choose to listen to it or not.

- Jack Zhang: [11:34](#) A lot of times, creatives will say, "System is wrong. I just want to do it this way." Sure, go ahead, but realizing that going this way compared to what our suggestion is, you have 40 percent difference on your success rate.
- Leora Kornfeld: [11:49](#) The famous line about the movie industry, William Goldman, is, "Nobody knows anything." You never know. You think you know something. You spend \$100 million or more on production. You spend just as much on marketing. You get your star person in place there, and what's the percentage? The failure rate is over 90 percent.
- Jack Zhang: [12:12](#) It's a flawed system because when you look at film, it's one of the oldest industries, and in the olden days, there's really not any way to tell until you finish a film.
- Jack Zhang: [12:23](#) But now, information is so open. Take, for example, for us. When we're trying to test out a idea, we don't shoot a whole film. We make a trailer based on not even a full script, a treatment. For our film - it used to be called Impossible Things, now it's called Daughter - what we did was take the treatment and spend \$30 on a mock trailer, but at that point, based on the trailer, you can communicate that idea to audiences.
- Speaker 3: [12:51](#) (singing).
- Leora Kornfeld: [13:04](#) This is basically a case of you made a trailer for a film that didn't exist.
- Jack Zhang: [13:10](#) Yes. It kind of exploded. We just put on social media, see if we get reactions, see if we get audience for that, and up to today, I think we have about 2.5 or 2.6 million views on Facebook.
- Jack Zhang: [13:21](#) And if you look through the comment section, among the I think about 20,000 some comments, people are saying, "I want to go see this," and tagging their friends, which you can see the reaction from people not spending millions of dollars.
- Jack Zhang: [13:35](#) Based on that 2.6 million views, we're able to lock in deals with major studios, Hollywood distributors to finance the film for a multimillion dollar budget other than the \$30 that we put up initially.

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Jack Zhang: [13:48](#) We really didn't think this was going to be a serious film. We were just trying to test our system and see if you could do what we thought you could, but it just out-performed our indexes that we were hoping to achieve.

Leora Kornfeld: [14:03](#) Where are you at in the production process with that movie now?

Jack Zhang: [14:06](#) We're just in the packaging process. We locked a director recently, and we're going out to cast to see who we want to star in the film.

Leora Kornfeld: [14:15](#) And it's being billed as ... is it the world's first or one of the first feature films that's co-written by AI?

Jack Zhang: [14:22](#) It's the world's first.

Leora Kornfeld: [14:23](#) The world's first.

Jack Zhang: [14:24](#) Yes.

Leora Kornfeld: [14:25](#) What does that mean? I saw in the writing credit that it says written by ... is it Michelle Medvedoff and Greenlight, so what does that mean when your co-writer is an AI system?

Jack Zhang: [14:38](#) If you look back through the creation process of this film, the system came up with the core elements of the story instead of a writer thinking, "Oh, this is a cool idea. I should write about it."

Leora Kornfeld: [14:49](#) And what were those core elements that the system identified?

Jack Zhang: [14:51](#) Well, for example, it's what type of relationship that should be in the film, who the victim is, what kind of monster it is, what's the setting, all these tiny, gritty, little details that needs to be in the film.

Jack Zhang: [15:03](#) And if it was a human writer thinking about it, a more experienced writer and a younger writer working together, an experienced writer says, "We should really focus on the relationship in the story," and, "This is what I've been doing all these years. If we want to do a supernatural horror film, you've got to put kids in there." All these points that you would normally get from more experienced writers, now a system is telling you to do that.

Leora Kornfeld: [15:30](#) Was it hard to get a writer on board to accept the things that the computer suggested?

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- Jack Zhang: [15:38](#) It wasn't that hard because I think it kind of fit into a lot of writers' working process too. When you think about writers, when they work with producers, they usually get notes back from producers and say what to change about the current version, do another pass on it, and blah blah blah.
- Jack Zhang: [15:56](#) Our system is essentially giving the same information. The writer may want to take another step at one of the acts. They will decide. I remember it was the final act of the film. Our writer was saying, "We should put a final fight scene there to get really action going," but when we checked with the system, making it more psychological was more plausible for the entire audience for this film instead of making it more action-oriented.
- Jack Zhang: [16:25](#) Every step of the way, we're able to give notes back to the writer and better position his project for its success. And that's at the core of this script, this film, and we strongly felt that without the AI, without the computer, this wouldn't exist, so it needs some credit.
- Jack Zhang: [16:48](#) But lately, we've been talking to our lawyer, and giving a computer writing credit may not be legally feasible, so we may have to take that credit off.
- Leora Kornfeld: [17:05](#) When we talk about data and movies, of course we've got to talk about Netflix. There's no way around that. One of the things that has set them apart is their very astute use of data from the very beginning.
- Leora Kornfeld: [17:17](#) They were way ahead of everybody else on that count, and what's really interesting is that Ted Sarandos from the company recently sort of changed his tune when it comes to the role of data. And I have a quote here from him.
- Leora Kornfeld: [17:31](#) He said, "In terms of data, it's helpful to size an investment in a series, but it's not really that helpful for creating content. I really think it's 70 to 80 percent art and 20 to 30 percent science," which is very different from what they had said before and what we thought about the way Netflix worked. What do you think of that?
- Jack Zhang: [17:56](#) Netflix definitely has a very strong data science team, and it's a massive corporation. They have data science on every aspect of the platform. Again, they're a technology company, and they're a streaming platform. A lot of the data science focuses on their current subscribers, what their taste is, how to recommend them content other than creation of content.

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- Jack Zhang: [18:20](#) Netflix, basically, they have a different set of priorities. They need to satisfy their current subscribers the most. That's their number one priority-
- Leora Kornfeld: [18:29](#) Is people who have signed up, not dropping off? To reduce churn, as they say.
- Jack Zhang: [18:34](#) Exactly. Exactly. Our objective is a little different. We want to maximize our demand. Doesn't matter where, which platform people are on.
- Jack Zhang: [18:43](#) Now, based on their past action, we're able to tell what level of demand is this content going to create, and that's what our objective is: to maximize the demand instead of maximizing or minimizing the churn for any particular platform.
- Leora Kornfeld: [18:59](#) And audience demand analysis is how you describe the company. And if I understand correctly, you're looking at making it available to people as AI-as-a-service. Explain what that means.
- Jack Zhang: [19:13](#) Essentially, just like any web app service that you see out there, it's like Google. You input something, and then you press enter. Boom. Some outputs come up. On our platform, which we hope will start rolling out in the marketplace later this year, you're able to input your film, your synopsis, your budget.
- Jack Zhang: [19:34](#) It will recommend what elements your synopsis contains, and you can also edit yourself after you put in all the information. It will run analysis for you and then give some outputs telling you where does your film sit on a scale of one to 100, actions that you could take to help bump up your film on the demand side, and all the steps that leads to the commercial success, essentially.
- Jack Zhang: [20:02](#) What's the sweet spot for a release strategy? What cities should you release the films in? Which theaters should you release the film? What demographic brackets should you focus your marketing campaign on, and what kind of interests do you target?
- Jack Zhang: [20:17](#) We can really drill into the nitty gritty of the data and say that, "Hey, instead of marketing to all 300 million people in North America, these 20 million people are really your target. You focus on these 20 million people, and you have a higher chance of success instead of wasting 90 percent of your marketing budget focusing on these people."

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- Leora Kornfeld: [20:38](#) When does the first one come out?
- Jack Zhang: [20:40](#) Hopefully, we'll start shooting later this year or early next year. We'll see how the packaging process is going, but we're starting to get some traction in Hollywood.
- Jack Zhang: [20:49](#) We're trying to cast someone who has some name value to the project so that helps us bring the credibility of the project, so we'll see.
- Leora Kornfeld: [21:01](#) That's Jack Zhang of the company Greenlight Essential. And if your interest has been piqued about the use of AI in the creative industries, you may want to check out season one of this podcast and an episode on a Toronto-based company called Wattpad.
- Leora Kornfeld: [21:17](#) It started as a user-generated writing platform and has since moved into book publishing and TV shows and movies, and it's done this by leveraging the 1 billion points of data the platform pulls in every day.
- Leora Kornfeld: [21:32](#) And this has been Now & Next, a podcast brought to you by the Canada Media Fund. You can find us in all the usual places you find your podcasts, and if you think you'd like to hear more episodes like this, please subscribe. And if you have a few seconds, it would be great if you could review the show on iTunes because people like reviews. People trust reviews.
- Leora Kornfeld: [21:55](#) That's it for now. Thanks for listening, and I hope you'll come back for more Now & Next. I'm Leora Kornfeld.