

SUPPLEMENTARY MATERIAL: FINE GRAINED SPOKEN DOCUMENT SUMMARIZATION THROUGH TEXT SEGMENTATION

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1. GENERATES SUMMARIES

In this supplementary material, we present additional qualitative examples of our generated summaries, preprocessed through text segmentation. In Table 1, the transcript is split into 8 segments. The generated spoiler summary from segments 8 (1, 6, 7), shows extra details extracted from filtered

data. The synopsis summaries 8 (1, 2), walkthrough and truncated show similar details.

In Table 2, we show another example of a transcript split into 4 segments, along with the filtered data. In Table 3, we highlight text that originated from each of those four segments. The truncated and walkthrough summaries mainly used data from segments 4 (1) and 4 (2).

Creator Description	Topic Splits Summaries
This week's episode of the Spine & Nerve podcast is a very special episode. Dr. Nicolas Karvelas and Dr. Brian Joves had the opportunity to speak with one of the leaders in the field of pain medicine and pain research, Dr. Ricardo Vallejo. Dr. Vallejo is the co-founder and director of research at Millennium Pain Center in Bloomington, Illinois, and founder and lead investigator of Stimgenics, LLC. They have pioneered a novel spinal cord stimulation (SCS) waveform known as Differential Target Multiplexed (DTM) Spinal Cord Stimulation . Stimgenics' preclinical research on the neuronal-glial mechanism of action has been recognized at various medical society meetings, receiving six "best of" awards for their research, three of which were specific to research investigating the DTM mechanism of action. NANS awarded the " Best Basic Science Research Award " to Stimgenics at their annual meeting in both 2018 and 2019 ...	8 (1, 2) In this episode, we sit down with Dr. Ricardo Vallejo to discuss Glial Cell Differential Targeted Multiplex Waveform (DTM) and the future of neuromodulation. This is a very special treat for you. Drs. Ellis and Vallejo are two of the most well-known researchers in the field of DTM. They have been doing some very exciting research in a rat model and working it up to larger animals looking at how glial cells interact with the spinal cord with chronic pain and then therefore looking to target those glials with Neuromodulation (NMR). This research has been some exciting times in our space. He did win the best basic science research award at Nan's 2018 and 2019 , as well as an NMR award in Azure 2019 . So please listen in as we take a deep dark dive into the early release of this product into market and into real patients that are outside of clinical trials. We hope you guys enjoy this conversation.
	8 (1, 6, 7) Dr. Ellis and Dr. Vallejo discuss glial cells, differential, targeted multiplex waveform chronic pain, and the future of neuromodulation . The research up to this point, in regards to DTM spinal cord stimulation, demonstrates significant benefit in regard to pain and changes in gene expression as you were discussing fairly early on. For example, a randomized controlled trial by a prospective, randomized, controlled multicenter trial that compared DC stimulation to conventional spinal-cord stimulation found significant differences in pain control at 3 months after spinal-stem implant stimulation. At that 3-month point in time, the research has demonstrated improvement in heat, cold, sensitivity and significant change in genes expression . In this session, we will review the data from the trial utilizing a rodent model of neuropathic pain. We will also discuss Glial Cell Differential Targeted Multiplex Waveform Chronic Pain (M2) and Future of NMRNA Transurfing (NMRN).
	0 (walkthrough) Dr. Ricardo Vallejo is the man, the myth, and the legend behind Stem Genex. He is also the founder and principal investigator for St. Jackson Millennium Pain Center and for the record, some Jenks was recently acquired by Medtronic. Over the past few years, he and his team have been coming up with some very exciting basic science research, first starting in a rat model and working up to larger animals looking at how glial cells interact in the spinal cord with chronic pain and then therefore looking into targeting those glials with neuromodulation . His research has led to the submission of the " Best Basic Science Research Award " at Nan's 2018 and 2019 , as well as an award at Azure in 2019 . In this episode, we discuss: The importance of Glial Cell Activation in Chronic Neuropathic Pain , What is DTM (Dermal Magnetic Stimulation) and how Glial cells can modulate the neuroglial response to stimulation...
	0 (truncated) Dr. Ricardo Vallejo is the man, the myth, and the legend behind Stem Genex. He is also the founder and principal investigator for STEM Jackson Millennium Pain Center and for the record, STM was recently acquired by Medtronic. In this episode, we discuss the role of glial cells in the development of chronic pain . His research focuses on the differential, targeted multiplex waveform (MMR) in Chronic Pain. Dr. Valallejo and his team have been doing some very exciting research over the past few years, starting in a rat model and working up to larger animals looking at how glial cells interact in spinal cord with chronic pain and then therefore looking to targeting those glicular cells with neuromodulation . This has been some exciting times in our space, he did win the best basic science research award at Nan's 2018 and 2019 , as well as an award for Azure in 2019 .

Table 1. Examples of generated podcast episode summaries, highlighting fine-grained details from a transcript split into 8 segments from episode: 0xO8sChswIL2Kafe4HEc2m.

Segments	Filtered Data
Segment (1)	You're listening to the buying Graphics podcast... Maybe you're out walking the dog or driving the car where it's not so easy to watch the video version. This is why this audio version exists ... So today's highly recognizable protagonist was hailed as a genius of entertainment, a wizard of animation . A pioneer of technology and theme parks the influence of Walt Disney on today's popular culture and Collective imagination . It cannot be understated. You could love him. You can hate him or you can love to hate him but you simply cannot ignore his work Walt Disney once famously said that laughter is America's greatest export but well, it's not is actually travel and transportation with 236 billion dollars in sales in 2017 , but sale of intellectual property including TV and movies ...
Segment (2)	... So if by laughter we mean entertainment then yes American entertainment is one of the country's most important export and these days a good chunk of that intellectual property is owned by Walt Disney Studios, Pixar Bonavista, Miramax plus the Marvel and Star Wars franchise has are some of the largest and most visible entertainment companies owned by the house of mouse ... Walter Elias Disney later known as Uncle Walt was born on December the 5th 1901 in Chicago, Illinois , his parents flora and Eliza were farmers and occasional entrepreneurs of Canadian origin. What was the youngest of five siblings the others being Ruth Roy Raymond and Herbert his much older brothers ...
Segment (3)	So what was Disney promoting? It was his next big dream .The one that would take most of his energy and attention for the last decade of his life.It was a massive and Innovative theme park in Southern California . Of course, that's Disneyland. Ten years time would prove they were absolutely right when the local population and park visitors sought Disneyland opened on July the 17th, 1955 and its first day was a disaster . 30,000 people turned up instead of the projected 15,000 meaning restaurants were soon out of food and drink ... Disney realized that only a small fraction came from the West Coast. That's when he got the idea of building a sister Park in Florida Disney World developed around the Prototype ... but Walt Disney would not live to see his new dream come true for most of his adult life..."
Segment (4)	He had been smoking three packs of unfiltered cigarettes every single day . His daughter tried and failed to convince him to cut back. They reached a compromise it would at least smoke three packs of filtered cigarettes, but he just remove the filters behind Diane's back . Inevitably in 1966 Walt was diagnosed with lung cancer . He underwent surgery but due to post-operative complications while had a heart attack and died on December the 15th 1966 at the age of 65 contrary to popular and persistent rumors. Employee cremated and his ashes were interred at Forest Lawn Cemetery in Los Angeles, California. So I hope you'll forgive me for stating the obvious but Walt Disney was and still is a controversial figure as is normal for somebody whose influence on the surrounding world and Society is larger than life personality. Like Disney will never be free from exaggeration slander and rumors or the opposite risk is to portray him exclusively in a saintly light for sure Walt Disney was not the fairest of Business Leaders ...

Table 2. Transcript from episode: 1fE39oSODbzEQt3u2mSC3K, segmented into four part.

Splits	Summaries
4 (1)	Today's highly recognizable protagonist was hailed as a genius of entertainment. A wizard of animation , a pioneer of technology and theme parks, and the influence of Walt Disney on today's popular culture and collective imagination . It cannot be understated. You could love him, or hate him—or love to hate—him. But you simply cannot ignore his work. Disney once famously said that "laughter is America's greatest export." But, well, it is actually travel and transportation, with 236 billion dollars in sales in 2017 , not just sale of intellectual property , including TV and movies.
4 (1, 2)	Today's highly recognizable protagonist was hailed as a genius of entertainment. A wizard of animation , a pioneer of technology and theme parks, the influence of Walt Disney on today's popular culture and collective imagination . It cannot be understated. You could love him, you can hate him or you love to hate, but you simply cannot ignore his work. Disney once famously said that "laughter is America" – and that is true. His company, Disney Studios, Pixar, Bonavista, Miramax, plus the Marvel and Star Wars franchise , are some of the largest and most visible entertainment companies owned by the House of Mouse.
4 (1, 3)	So today's highly recognizable protagonist was hailed as a genius of entertainment, a wizard of animation , a pioneer of technology and theme parks, and the influence of Walt Disney on today's popular culture and collective imagination. It cannot be understated. You could love him, you can hate him, or you can love to hate him. But you simply cannot ignore his work. Walt Disney once famously said that "laughter is America's greatest export." But, well, it is actually travel and transportation, with 236 billion dollars in sales in 2017 , not just sale of intellectual property , including TV and movies. So what was Disney promoting? Disneyland was his next big dream , the one that would take most of his energy and attention for the last decade of his life. It was a massive and innovative theme park in Southern California . Of course, that'd Disneyland. Ten years time would prove they were absolutely right when the local population and park visitors sought Disneyland. Disneyland opened on July 17th 1955, and its first day was a disaster .
4 (1, 4)	Today's highly recognizable protagonist was hailed as a genius of entertainment. A wizard of animation , a pioneer of technology and theme parks, the influence of Walt Disney on today's popular culture and collective imagination ...You could love him, you can hate him (or you love to hate) but you simply cannot ignore his work. Disney once famously said that "laughter is America" which is actually travel and transportation. With 236 billion dollars in sales in 2017 ... Disney had been smoking three packs of unfiltered cigarettes every single day . His daughter tried and failed to convince him to cut back. They reached a compromise. He would at least smoke three boxes of filtered cigarettes, but he just removed the filters behind her back ... Inevitably. In 1966, Walt was diagnosed with lung cancer .mHe underwent surgery but due to post-operative complications, had a heart attack and died on December 15th, 1966 at the age of 65. Contrary to popular and persistent rumors, he was cremated and his ashes were interred at Forest Lawn'
4 (truncated)	Today's highly recognizable protagonist was hailed as a genius of entertainment. A wizard of animation , a pioneer of technology and theme parks, and the influence of Walt Disney on today's popular culture and collective imagination . It cannot be understated. You could love him, you can hate him (or you both), but you simply cannot ignore his work. So, today, Walter Elias Disney , later known as Uncle Walt, was born on December 5th, 1901, in Chicago, Illinois . His parents, Flora and Eliza, were farmers and occasional entrepreneurs of Canadian origin. What was the youngest of five siblings , the others being Ruth Roy Raymond and Herbert Raymond , his much older brothers ...
4 (walkthrough)	Today's highly recognizable protagonist was hailed as a genius of entertainment. A wizard of animation , a pioneer of technology and theme parks, and the influence of Walt Disney on today's popular culture and collective imagination . It cannot be understated. You could love him, you can hate him (or you both), but you simply cannot ignore his work. Disney once famously said that "laughter is America" —that his greatest export is travel and transportation. With 236 billion dollars in sales in 2017 — the sale of intellectual property , including TV and movies, amounts to 49 billion — which is still as big as Cyprus. So if by laughter we mean entertainment, then yes, American entertainment is one of the country's most important export. And these days a good chunk of that intellectual property is owned by Disney Studios, Pixar, Bonavista, Miramax, plus the Marvel and Star Wars franchise , which is some of its largest and most visible entertainment companies. Disney can capture the imagination of every girl or boy from early childhood, all the way through adulthood.

Table 3. Corresponding summaries produced with filtered data from the four segments. Text is highlighted in color to represent where the text originated from in the segments (cf. Tab. 2).