



SPIDER-MAN: ACROSS THE SPIDER-VERSE

ANIMATING A SPECTACULAR WEB OF VISUALS.

BY KENDRA RUCZAK



A brilliantly animated web of visuals is brought to life in dazzling detail in *Spider-Man: Across the Spider-Verse*, directed by Joaquim Dos Santos, Kemp Powers, and Justin K. Thompson. The sequel to 2018's Oscar-winning *Spider-Man: Into the Spider-Verse*, this visually stunning new adventure follows Miles Morales (voiced by Shameik Moore) as he embraces his role as Brooklyn's friendly neighborhood Spider-Man.

After reuniting with Gwen Stacy (voiced by Hailee Steinfeld), Miles encounters a fearsome new foe: Spot (voiced by Jason Schwartzman), a sinister scientist with a body punctured by portals to other dimensions. Miles is catapulted beyond his own universe and becomes acquainted with the Spider Society, an elite league of Spider-People tasked with protecting the existence of the multiverse. When Miles begins to clash with the society, he sets out on a daring quest to protect his loved ones while navigating the complexities of being a hero.

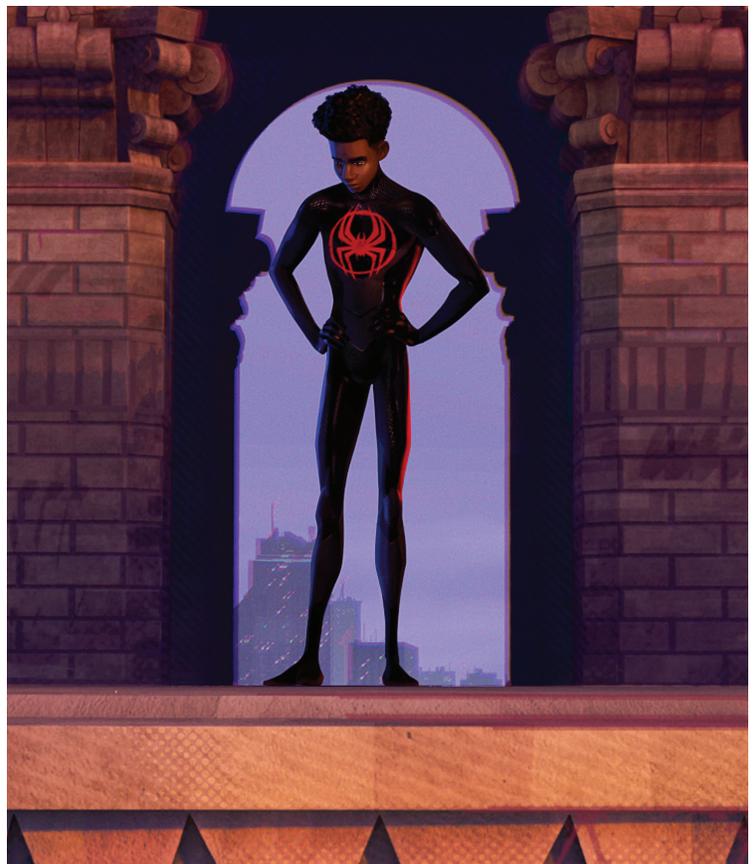
This award-winning new chapter of the Spider-Verse saga unfolds across a vast array of multi-faceted parallel universes, each animated in a strikingly distinct visual style. At the 2023 View Conference, director Joaquim Dos Santos and visual effects supervisor Michael Lasker discussed the process of bringing these spectacular visuals from the page to the screen.

DIRECTOR JOAQUIM DOS SANTOS

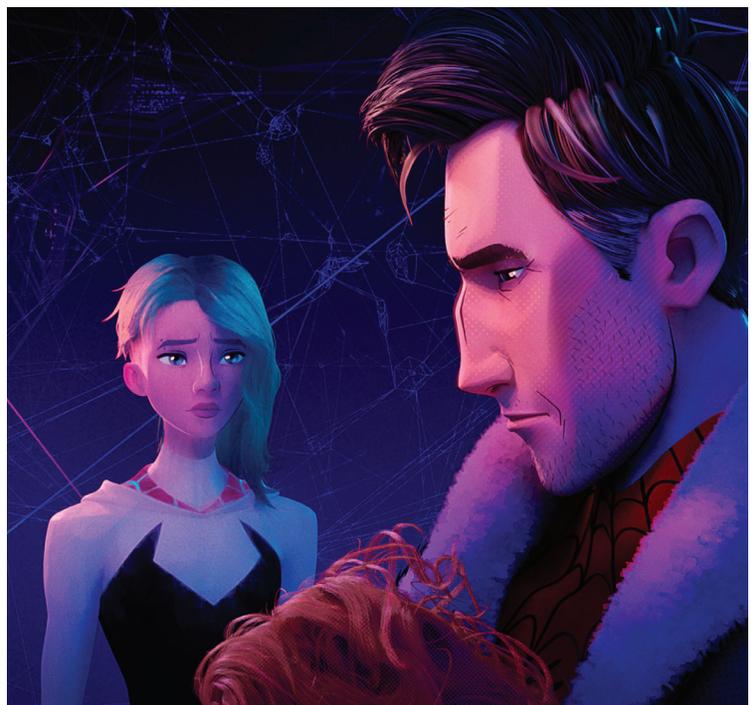
CGW: How did you approach the challenge of bringing the film's diverse range of visual layers to life on screen?

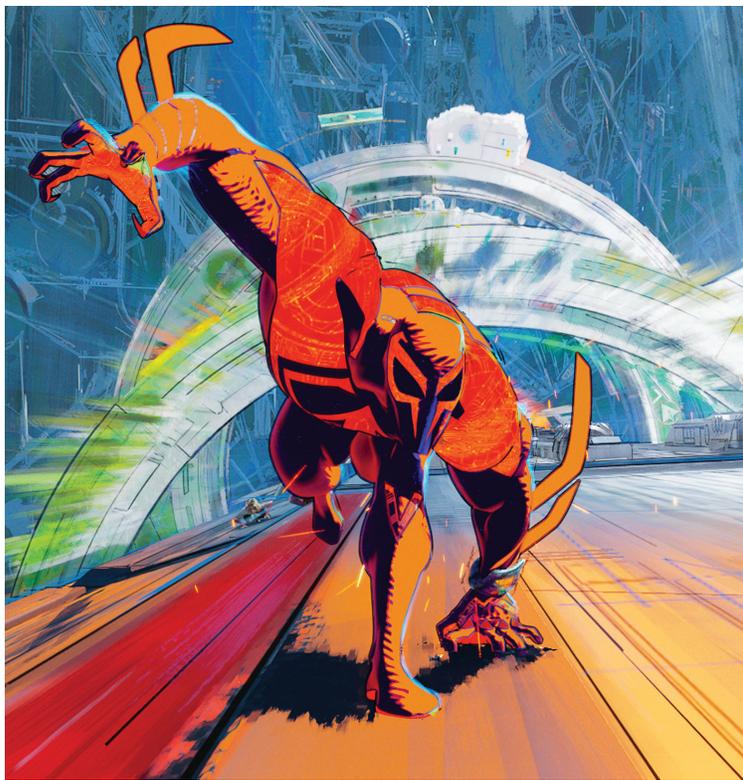
Joaquim Dos Santos: I came in at the tail end of the first film, when it was still in the final phases of lighting in post production. Phil [Lord] and Chris [Miller] had screened it for me. We were in a small little screening room, and at that point, I think the trailer had already released. The animation industry was aware that this was coming down the line. They just didn't know how hard the film was going to push. I watched the film, and I was blown away by it. They turned to me, and they said, "Alright. So how do we go bigger? How do we take the governor off now and really go at it?" And I was like, "Guys, I think you did it. I don't know where it goes from here." Especially that Collider fight at the end. But I think with anything, you start with a really simple idea.

So there were two things. The first film was about these characters invading Miles' world and imposing themselves on him. The second film was really about Miles and Gwen going out and doing the opposite and imposing *themselves* on these other worlds. So by nature, that was already a bigger idea. That's a big, fantastical supernatural idea. The other idea is that we've all felt a version of insecurity, of feeling like you don't belong—feeling like you're trying to figure out your way into the world. I can remember being of a certain age and sort of making that separation from my parents. My kid's eight years old, and I was holding his hand just a few months ago. His friends came up and he pulled his hand away—he didn't want me to hold his hand anymore. Kemp [Powers]—one of my fellow directors—both Kemp and Justin [Thompson] have kids that are Miles' age, and they were going through a lot of what Miles is dealing with with his parents. So that relatability and those ideas sort of trans-



Director Joaquim Dos Santos began his career as a storyboard artist.





Six distinctly animated universes appear throughout the film.



pose on top of those big supernatural ideas. That is really the kind of ignition point for how these films get started. Even if you stripped away this Spider-Man motif, there's still compelling drama that's playing out between Miles and his parents and Miles and Gwen. I sort of joke about it, but I really wouldn't mind seeing just a Miles day-to-day life that doesn't even deal with him being in the Spider-Verse.

CGW: Were there any sequences in the film that were especially complicated or exciting to work on?

Joaquim Dos Santos: One of the things that was really near and dear to my heart, to *all* our hearts, was this idea that oftentimes after a film is made, they release those “art of” books, right? So you look at the art in there—this is across live action and animation—and then you look at the final product and you say, man, this art was so inspiring and had such a spontaneity to it, or you could really feel the hand of the artist. It was sort of our mission to make sure that the art was one-to-one represented on screen. So that idea was really exciting.

I think one of the places that it came across really well was in Spider-Man 2099's worlds. Seeing the pencil strokes first and then the marker comps, and then the more fleshed out linework build up as things dipped off into perspective. Just as a fan of art, that was really, really exciting to me.

It's actually one-to-one. We didn't want to pull any punches. We didn't want anybody to feel like we'd shortchanged them on that promise. That was the goal.

CGW: How did you communicate with your artists and your animation and visual effects teams to accomplish that goal?

Joaquim Dos Santos: It's massive. It's a huge orchestra. You have artists and leads that you put absolute trust in. As directors, we have the advantage of being able to go into a room and talk about the emotionality of the scene, or bringing in reference images and saying, we really like something that evokes this feeling. Then we have a slew of amazing artists that will get to work on that.

And then the handoff between Sony Animation and Sony Pictures Imageworks. They're technically two separate entities, but we really work as one unit. That shorthand—they've worked on so many films together, going back to *Cloudy with a Chance of Meatballs*—that handoff is like speaking a language without words. They have a way of interpreting our emotionality and our lack of technical know-how into what tools will need to get built in order to achieve the things that we're asking for, for every world. In Gwen's world, in particular, those scenes were built uniquely. Gwen's world doesn't obey one light source, so you have new setups for all those scenes. They were willing to go into battle for those ideas every single time.

CGW: How did you launch your career, and what was your path to directing an animated feature?

Joaquim Dos Santos: I was sort of the world's worst student in the world. I don't recommend this path. I was much like Miles. I graduated high school with a bunch of my friends, and a lot of them started going off to college. I, from a very young age, knew I wanted to do something artistic. I grew up in LA, so my high school was right down

the street from Film Roman, where they were making *The Simpsons*. I'd walk home from school and literally watch the animators designing *The Simpsons* right there. So I was really lucky in that it was around me. I could see it, it felt tangible. But breaking that barrier and just getting in seemed almost insurmountable. The luck of growing up in the area is that all the people that worked at those studios at night basically got together and said, "Hey, we need to teach a new generation of artists." They got together and they formed a little technical school. It was unaccredited, but it taught you from the people that were making the films during the day.

I was literally slinging coffee at the Coffee Bean & Tea Leaf, and at night going and taking these courses at the school. I found storyboarding. I love comic books, I love animation, I love film. And when I took my first storyboarding class, I realized this was like a combination of all these things—where you're telling a story, you're speaking through a camera lens. You're really setting a pace. My teacher at the time, he said to the class, "What you don't realize is that the story artist is kind of the director at the top." It's like you're really dictating a pace that the director will then internalize and make decisions on that. You really get to set a pace, and that seemed exciting. So my path was a story artist. That was sort of a direct shot to directing, to producing, and then onto directing a feature film.

I was one of those kids that my mom thought, "Is there something wrong with you because you're in your room all day drawing?" I wouldn't go outside. If you really have a passion for something, you will find a way to make it part of your life, even if it's just a hobby. If I'm not drawing for work, I'm drawing because I enjoy drawing.

CGW: Is there any advice you wish you had received when you were first starting your career?

Joaquim Dos Santos: To appreciate the process. Not to worry so much about what's around the corner, but to really appreciate and do the very best at what's right in front of you. When you're younger, you're always thinking, what's my next move? What's going to be the next thing that's going to get me to the thing? And I think what I realized, and I was fortunate enough to realize really soon, is that it's the work that's directly in front of you that's going to speak on your behalf and get you to the exit.

VFX SUPERVISOR MICHAEL LASKER

CGW: How did you approach the challenge of supervising the multitude of effects that would be needed to bring the film's visuals to life?

Michael Lasker: There's a lot. I think there's more in this movie than any movie I've ever seen. I did the first movie *Into the Spider-Verse*, and it kind of rewired our brains to get used to having to figure out how to do every form of filmmaking and rediscover it. And then after *Mitchells vs. the Machines*, I rolled onto this movie. It's not like everything's thrown on you all at once. You know the story, you know the script. Little by little you find things out. But very quickly we realized we have six universes to build.

We worked with the art department and the directors, and we



The film paid homage to legendary artists Syd Mead and Ron Cobb.





figured out what we'd have to develop and what the different looks would be. We built tools in the end that we could actually use across all the universes, but just dialed differently. So for outlines in 2099 and outlines in India, we were using the same tools, but just dialed them to look like different styles. But it was a lot of work. We used to joke that a day on *Spider-Verse* is like a week. If you were out for a day, you're like, "Oh my God, what did I miss?" It's insane. But we had like a thousand artists. It was like driving a ship through the ocean on a journey. We have very organized people. We have very talented people. Everyone's in it together, just figuring out how to make this art. It really unleashed everyone's artistry and people got really into it. That passion just drove it.

We developed brand new tools from the ground up, and we would have meetings about the Vulture or about Spider-Byte, where every part of the pipeline was involved. We would need the riggers and the modelers and effects and CFX [character effects] all talking about how we were going to make this character, but it got everyone together on the same page. I would just love having meetings where the whole pipeline was represented. You want to do things the best way for everybody.

CGW: How did you keep that communication going with your teams all over the world?

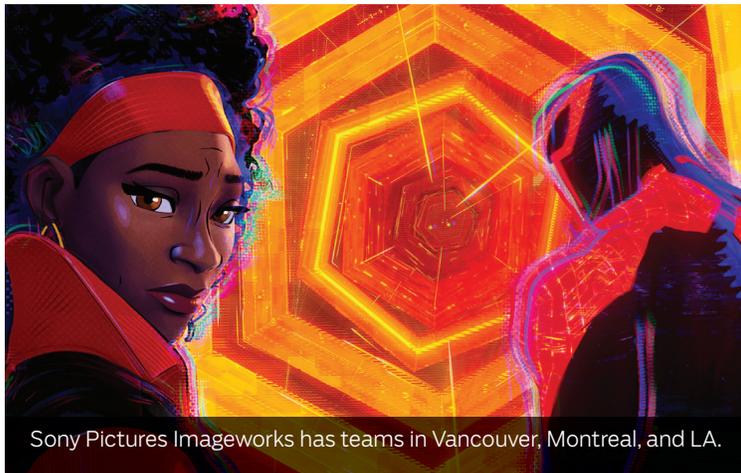
Michael Lasker: We're based in Vancouver. We have a core team in LA. We have a team in Montreal. But the communication is really smooth. We do stuff over Google Hangouts...Everyone's mics are open so they can all speak when they want. I've got the artist's name as an overlay on every shot, so it was really easy for me to see who worked on it.

I'd always encourage people to speak up. Then I got to know all the teams because I would sit in rounds all day and I could get like seven lighting teams coming in and out, and effects and cloth. You get to know the supervisors well and the teams, and this is day in, day out—just constant communication. And that's what it comes down to—communicating. Just creating a nice environment for everyone.

I would always encourage the artists to bring their ideas...I've named looks after artists before. On the first film, we have a "Pablo" effect because Pablo Holcer came up with this amazing offset effect when Peter gets sucked into the ceiling.

CGW: Were any sequences especially challenging or memorable to work on?

Michael Lasker: Definitely anything that was brushed was really the hardest thing. Gwen's world was technically and artistically the hardest world to create, and it was because it was based on watercolor. Every shot had a different lighting look because it was all based on Gwen's mood. So typically when you light shots in a CG movie, you can use a lighting rig to run out your whole sequence...But for a lot of these sequences, we would need almost a lighting key for every shot, because shot to shot, it was completely different and you couldn't leverage off of optimizations. You would have to first block out the colors and the light, and then go back and brush it like a painting...I would say Gwen's world was really the catalyst for so much of what we created.



Sony Pictures Imageworks has teams in Vancouver, Montreal, and LA.



Then obviously you have big chase sequences like Miles on the train in 2099. A huge amount of planning. You're going from the underbelly of the world, up this vertical highway to a space station. You have so much to deal with, and you have to get the look of picture in animation and the effects. So there's just an endless amount of things.

The Vulture—most complicated character we've ever made. And Punk, and how they're going to integrate into the lighting...I could go on and on about challenges and exciting things for honestly days.

CGW: You've been working in the industry for over 20 years now, in both live action and animation. What have you seen change since you first got your start?

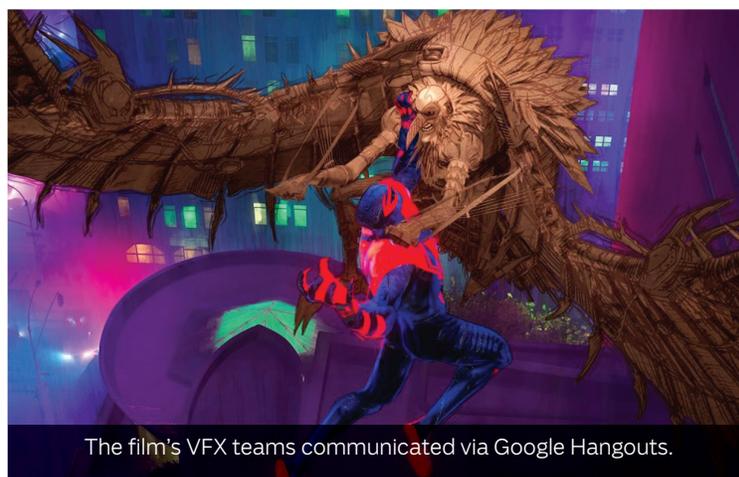
Michael Lasker: I think what really excites me are these stylized animated films. For the longest time, I worked in live-action photoreal effects, worked in animated films where we would have different character designs and different color and lighting, but you typically followed the same principles. You do eyes the same way. You do hair the same way—skin, clothing, simulations. What I loved about *Into the Spider-Verse*, *Mitchells vs. the Machines*, and *Across the Spider-Verse* is it got us to just rethink and rebuild how we did everything, and it unleashed this artistry in everyone's brain. No challenge is too big, and to attack things and figure out how to do things that you never thought you could. I think that's really been the number one thing. It really invigorated me...it's like you get to that point where you just need to get yourself fired up again. Once you went down that path in the first movie, it was like starting over. We were starting over.

CGW: Where do you think things are headed, especially with AI and all of these new technologies coming into the pipeline?

Michael Lasker: I'm excited about Unreal in real time technology—game engines working their way into the pipeline. I think on the front end, especially going from previz into layout and allowing directors to kind of act like live-action directors and shoot, use a camera, walk around, direct the blocking and set dressing, and scouting, *that* I think is going to make a *huge* difference in the pipeline. I think as far as technology, I'm really excited about that because it'll make it more like filmmaking should be. It'll make things easier and allow directors to really be directors...They can give notes on the fly and be creative, like you're out actually shooting a live-action film.

CGW: Do you have any advice that you wish you'd received when you first started your career?

Michael Lasker: I had a really hard time finding my first job. I think I sent out 75 demo reels and they were all rejected. I got into the industry where I think it was the first influx of people. But you just have to be persistent, and you have to follow what you love. Because if you follow what you love, you're not going to let anybody stop you. And that's kind of what I did. I always knew what I wanted to do, and I just had this tunnel vision to my end goal. You've got to let stuff wash over you. Don't take it personally. Just go all out to set goals. If it's your dream or whatever it is, don't let anyone stop you. ■



The film's VFX teams communicated via Google Hangouts.

