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ENGINEERING ALUM BRINGS STEM TO HOUSTON KIDS

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When Monse Lozano was a teenager growing up in the Houston Heights neighborhood, he dropped out of public high school, got his GED and found work at a local phone company. Now, a little more than a decade later, he's a [UH Cullen College of Engineering](#) alumni and an engineer at [NASA's](#) Johnson Space Center, creating robotic technologies launched into space and used aboard the International Space Station. It's not a traditional career path, but Lozano seems to buck tradition in more aspects of his life than just his job. He's now starting his own nonprofit organization aimed at teaching electronics through art to Houston's youth.

Lozano's nonprofit is called [Vampire Squid Labs](#), and he's currently in the process of getting the group certified as a 501(c)(3) with the IRS so he can obtain funding from different organizations. He's hopeful the certification and fundraising will move at a speed that will allow him to start up classes later this year.

Vampire Squid Lab (VSL) classes will introduce technology in a way that's understandable to younger generations, using something that's very near and dear to Lozano's heart: art. Students in the VSL classes work on projects like creating synthesizer circuits and then having concerts with their newly created instruments, or they build small vibrating robots, attach toothbrushes dipped in paint to them and have a "gallery opening" at the end of class.

According to Lozano, the focus in the classes is on "making it fun, avoiding all the technical stuff. There is a lot of hands-on creation in the labs and with the projects," he said, which makes learning about electronics all the more graspable to a younger audience.

The electronics classes had a trial run last fall at Multicultural Education and Counseling Through the Arts (MECA), when Lozano signed up to volunteer and shared his curriculum with the nonprofit. The response was overwhelmingly positive, and Lozano said it motivated him to strike out on his own through VSL.

"If I had been exposed to this [as a child], I would have pursued engineering a lot earlier. I would have graduated at the regular graduation age, 22 or 23, so I would have started my career path a lot earlier," Lozano said. Lozano was working at a phone company when he discovered his knack for engineering entirely by chance "he happened to take a workshop on circuits which the company offered to its employees free-of-charge, and was hooked on engineering ever since. "If kids aren't exposed to it at all and they don't know it's out there, this can be life changing. [The circuit class] was a big impact to me in my life."

Fortunately, Lozano says he's seen a shift over the last several years in the popularity of learning electronics, whether as a hobby or a professional field of study. "When I graduated, there wasn't as much hobby electronics stuff as there is now. It's only been a few years, but it's increased exponentially. There's a ton of stuff out there. You can go to Fry's or Radio Shack and pick up small computers for \$20 and make almost any electronic program at home for pretty cheap. You couldn't do that six years ago. That plays a significant role into what we do at VSL, because we lean on that open source hobbyist electronics community for projects and platforms to help the kids do these things." Lozano hopeful that the uptick in electronics popularity will encourage more youth participation in STEM fields.

It's a lot of work "especially on top of his NASA day job " but Lozano said VSL is his "baby." Going from high school dropout to Johnson Space Center engineer, he hopes to spread interest in the field that has given him so much. "I feel lucky, and I want to share that and give others a similar opportunity."

Learn more about Vampire Squid Labs [here](#).