

Engineering graduate and musician values coursework and connections

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|
Alicia Serrano aserrano1@tulane.edu

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Robert Johnson, who is receiving a Bachelor of Science from the School of Science and Engineering, with a double major in engineering physics and mathematics and a minor in music, is part of POSSE, a Maker Ninja at the Scot Ackerman Makerspace, and was part of the Tulane University Marching Band his first and second year at Tulane. Johnson will pursue his PhD at the University of Rochester's Institute of Optics. (Photo by Paula Burch-Celentano)

Robert Johnson, who is receiving a Bachelor of Science from the School of Science and Engineering, with a double major in engineering physics and mathematics and a minor in music, embodied the “work hard” mentality, but learned throughout his time at Tulane to enjoy the journey and connections with people along the way.

The New Orleans native is a part of POSSE, a scholarship program that recruits and mentors young leaders from high schools and sends them in teams, or posses, to colleges across the country. Johnson credits his POSSE mentor, Ambika Prasad, a lecturer in management at the A . B. Freeman School of Business and adjunct professor with the Tulane Honors Program, for supporting and pushing him.

“She’s helped me throughout, always checking on my grades, and making sure she held me up to a standard that was my own standard. I always have a high standard for myself, like ‘I need all A’s,’ and she held me to do that,” Johnson said.

Johnson said that Prasad gave him a tie that he always wears for interviews and important presentations or meetings. He said that she, along with the rest of the students in POSSE, provided great emotional and educational support.

Johnson is also a Maker Ninja, as student workers are called at the [Scot Ackerman Makerspace](#). These students ensure the safe and knowledgeable operation of tools such as laser cutters, water jet cutters, CNC milling machines, CNC lathes, 3D printers and traditional hand and power tools.

The MakerSpace is where Johnson said he spends most of his days and dubs it like a “second home.” He said he didn’t expect to grow close with his fellow Maker Ninjas but “we have really, really, good friendships,” noting that the group is attempting to get together for a group photo before graduating.

In addition to his academic endeavors, Johnson was also part of the Tulane orchestra and the Tulane University Marching Band (TUMB) his freshman and sophomore years.

“It (TUMB) was an all-consuming force, but at least a good force that gave me a lot of exercise, a lot of patience and endurance, and more importantly, a lot of friends.”

Johnson, who loves playing music and was originally a music performance major before switching to engineering physics, played alto saxophone in middle school and marched in parades. In high school, he also learned to play the viola, a classical

orchestra instrument, but would play jazz music with other classmates outside of class, and even taught younger students how to play on the weekends. He also plays cymbals and says playing music is “calming.”

Johnson already has his post-graduation plans lined up for fall as he will pursue his PhD at the University of Rochester’s Institute of Optics. He was also accepted to the electrical and computer engineering program at the University of Texas–Austin.

His long-term plan is to make a quantum computer using quantum integrated photonics. “Basically, I want to use light to make a quantum computer,” he explained.

Johnson and his best friend, who is also graduating in engineering physics and moving to Rochester with Johnson for a new job, plan to start a company together, first making lasers and then quantum computing. The two met because Johnson was playing music in his residence hall room.

“He lived right next door to me. And he said he heard me playing viola in my room, and I didn’t even know anybody could hear me,” Johnson said.

Of his time at Tulane, Johnson said he learned to “take a step back and understand different perspectives and cultures.”

“Coming from a financially unstable background, it can really change your perspective on life,” Johnson said.

He noticed others allowed themselves to experience a sense of “freedom in life.”

“There is always that lingering thought to me, ‘No, I have to still push. I’m not quite there yet. I still have to continue to push and work hard,’” he said. “But it is nice to understand that at moments in life, I could take a step back, relax, let it all happen for a moment and just experience it. Then get back to pushing.”