

# Biomedical informatics grad completes digital health research to predict Parkinson's disease

By Eden Miller, ASU News  
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**Editor's note:** This story is part of a series of profiles of notable [spring 2025 graduates](#).

[Biomedical informatics and data science](#) graduate Suraj Puvvadi has always looked at the intersections between disciplines, seeing how skills in one area can serve another. For him, that means looking at how health and medicine intersect with technology and math.

Over the summer of 2024, Puvvadi was awarded the [DAAD-RISE Fellowship](#) to conduct research in Germany studying cerebellar ataxia — a neurological disorder affecting movement and speech — using machine learning models.

"I recently began working with Suraj in a research capacity, and he has quickly proven to be an asset to my lab. Suraj has seamlessly applied this knowledge to his honors thesis project to build on the valuable insights he gained during his DAAD-RISE internship in Germany, where he explored sensors and movement disorders," said [Hassan Ghasemzadeh](#), associate professor in the [College of Health Solutions](#).

"That's an opportunity I would have never expected that I was going to have. I'm very grateful for it," said Puvvadi. "Having that background, working with neurological disorders and AI is actually what drove my thesis forward because I had some of that background working on that over the summer and kicked it into overdrive with my thesis."

Using his interdisciplinary background and on-site experience, Puvvadi conducted work on using smartwatch signals to aid in early detection and prediction of Parkinson's disease, which became his undergraduate honors thesis. Ghasemzadeh was the primary investigator on the project, which won Puvvadi the Dean's Outstanding Choice Award at the College of Health Solutions Student Research Showcase on May 2.

“His mindset toward entrepreneurship was evident when he described his career goals to develop digital health tools for patients and low-cost diagnostic tests for physicians to help different populations manage their chronic conditions,” said Ghasemzadeh.

“Within my 15 years of teaching, I can unequivocally state that Suraj is one of the most sincere, hardworking and curious students I have worked with.”

Puvvadi recently won additional grant funding for ConnectAID, his project with Teadora Zawilak that seeks to streamline access to referrals for underserved communities. ConnectAID aims to assist patients more effectively based on their needs, particularly those related to language accommodations, access to transportation, citizenship status requirements and other barriers impacting the patient’s ability to use the referrals provided. Puvvadi and Zawilak participated in the [Change the World](#) showcase in spring 2025, winning third place in the pitch competition.

In addition to his research, Puvvadi finds time to mentor first-year students as a teaching assistant, making the material both engaging and relevant.

“Given Suraj’s commitment to academic excellence in his coursework and his passion for mentoring younger students, I can confidently say he is one of the most remarkable students I have worked with,” said Ghasemzadeh.

Read the below Q&A to learn more about Puvvadi's journey and advice to fellow students.

*Note: This interview was lightly edited for length and/or clarity.*

**Question: What was your “aha” moment when you realized you wanted to study the field you majored in?**

**Answer:** I’ve always been fascinated by the human body, specifically how different organs and systems interact and how diseases affect those processes. I loved learning about physiology and medicine, but I was also drawn to subjects like physics, chemistry and math. For a while, I didn’t know how to bring all those interests together.

My "aha" moment came during the COVID-19 pandemic, when I started working on a research project focused on Valley fever. That was my first real exposure to biomedical informatics. We were using metabolomics to explore precision therapeutics, and that experience introduced me to the world of coding. It was completely new to me, but I found it very rewarding. I taught myself how to code and how to work with data.

From there, I was hooked. That’s when I realized that biomedical informatics was the perfect intersection of medicine, science and technology that I enjoyed. It brought everything I loved into one field, and that’s when I officially joined the biomedical informatics major at ASU.

**Q: What was your thesis about?**

**A:** My [Barrett, The Honors College](#) thesis focused on using deep learning to analyze smartwatch sensor data for early detection of Parkinson's disease. The goal was to explore how this wearable data could help distinguish Parkinson’s from similar neurological conditions and potentially support earlier, more accurate diagnosis. It was an exciting intersection of health care and technology.

**Q: What's something you learned while at ASU — in the classroom or otherwise — that surprised you or changed your perspective?**

**A:** This might sound cliché, but one of the most valuable things I learned at ASU was the power of opening up and making my first introductions. I was fortunate enough to surround myself with people who think differently, come from different backgrounds and are so passionate about what they do. At a place like ASU, I quickly understood that there's always someone who's an expert in something or sees things from a fresh, new angle.

Building these diverse connections, whether they are a photography major, an informatics student or a computer scientist, everyone has something meaningful to contribute. Being curious about others' work and passions is something I've really grown into here. ASU's size and diversity pushed me to develop that skill.

**Q: Why did you choose ASU?**

**A:** I've lived in Arizona for most of my life, so choosing ASU felt like a natural decision. It allowed me to stay close to home while still pursuing an amazing education. I considered other options, but ASU stood out because of its unique strengths, especially in biomedical informatics. Not many universities offer such a focused program in this field, and that was a huge draw for me since I already knew what I was interested in.

On top of that, ASU's partnerships with institutions like the Mayo Clinic and the new medical school opening up soon made it clear that this was a place where innovation and collaboration are taken very seriously. People joke about ASU being "number one in innovation," but from my experience, it's true. There are always new programs that are being started and more opportunities opening up. Lastly, just the sheer diversity of professors and faculty here motivated me to join ASU.

**Q: Which professor taught you the most important lesson?**

**A:** Dr. Hassan has always encouraged me to dream big, think big and aim high. He taught me to think beyond the immediate scope of my work and consider how it could grow and evolve. Many people I know have incredible goals but may not have the courage to move forward. I think for that reason, having mentors who fully believe in me and trust me has been really crucial in helping me be able to actually dream big and put my thoughts into action.

I also want to give a huge shoutout to all the professors in the biomedical informatics program at ASU. They've been extremely supportive, not just of me, but of so many students pursuing ambitious goals.

Dr. Hassan was also my thesis PI and a constant source of guidance throughout my coursework. Dr. [Dongwen Wang](#) was another key mentor. I took one of his classes in my sophomore year, and it was a turning point, where I completed a full-scale project that truly sparked my passion for biomedical informatics. And Dr. [Anita Murcko](#) brought a powerful clinical perspective to my mainly tech-focused education. As a physician, she helped us understand how informatics intersects with medicine, which added so much depth to my learning. I'm grateful to all of them for shaping my journey.

**Q: What is your best piece of advice you'd give to those still in school?**

**A:** I'm still a student myself and will always be one way or the other. But from what I've experienced as a student myself, I'd advise those currently in school to dream big and not be afraid to ask questions, even if they don't seem like the "right" ones. Sometimes it's those unexpected or "silly" questions that lead you to your best ideas.

At a place like ASU, or really in any learning environment, there's always someone who's an expert in what you're curious about. Don't limit yourself by thinking something is impossible just because you don't have the answers to something. If you have an idea, pursue it. There are people and resources who will support you. Be bold, brave and fearless in your thinking. Take time to reflect on the kind of life you want to live and the impact you want to have on your communities. It doesn't have to be huge. It could be your friends, your siblings or your parents. Improving the lives of the people closest to you is just as meaningful. Focus on what excites you, then start taking real steps toward turning that passion into reality.

**Q: What are your plans after graduation?**

**A:** I'm interested in engaging further within health care, within a patient-centered and research-focused capacity. I'm figuring out how everything fits together for me. Going forward, we'll see what the next step is!

**Q: If someone gave you \$40 million to solve one problem on our planet, what would you tackle?**

**A:** With \$40 million, I would invest in strengthening community-based organizations that already work to improve health care access, especially in underserved communities. CBOs are uniquely positioned because they already have the trust, cultural understanding and community presence to make a real difference. They know what their communities need and how best to deliver it. Whether that's health education, preventative screenings or connecting people to critical services. The money could go toward scaling their outreach, training more community health workers and integrating simple technology solutions to enhance their efforts. It's not about reinventing the wheel but rather about empowering the people already doing the work and giving them the tools to do it even better.

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**Main image**



Suraj Puvvadi. Courtesy photo