



Aliza Mujahid, '25H

Biomedical Engineering

NJIT Board of Trustees Scholarship

Dorman Family ADHC Dean's Scholarship

Sweeney-Lacy Scholarship

Paul V. Profeta Foundation, Inc. Innovation and Entrepreneurship Fellowship

What inspires you most as a student, and how does it influence your academic and personal growth?

I am driven by the opportunity to create real-world solutions through technology. Meeting and collaborating with people who foster meaningful change constantly energizes me to push the boundaries in my field. This inspiration not only drives me academically—by fueling research and development—but also fosters my personal growth. I have learned leadership, resilience, and the ability to translate classroom theory into tangible products that can truly make a difference.

Please tell us more about your company, DermaMech, and explain its significance in your field of study.

I am the CEO of a startup company called DermaMech where we are developing a skin grafting device that helps plastic surgeons achieve faster wound recovery and higher success rates. Under the guidance of Dr. Farid Alisafaei, my research focuses on the mechanics of skin cells under stress—understanding how to reduce the contraction that typically occurs during grafting. This is crucial because patients with severe burns, blast injuries, or other traumas deserve the best possible outcome when it comes to skin grafts. By enhancing the efficiency and effectiveness of these procedures, DermaMech can potentially transform care in a rapidly growing, \$22 billion industry.

What challenges have you encountered during your project, and what has helped you overcome these challenges?

One big challenge was connecting with plastic surgeons and specialists during my National Science Foundation ICORP program. Thanks to my family network and university connections, I was able to overcome that hurdle and get valuable insights. Another challenge was time management. Balancing a demanding academic schedule with a startup meant I had to give up social activities—and a lot of sleep! However, these sacrifices paid off. DermaMech now holds a provisional patent, and I am actively seeking funding to bring our proof of concept to market. With the mentorship of Dr. Kathy Naasz, I will be competing in events like the Hult Prize and the Rice Business Competition to help secure the necessary resources.

How has receiving scholarship support enhanced your experience as a student and contributed to the success of your current project?

Scholarship support opened doors for me to study abroad, including learning Mandarin at Taipei Tech in Taiwan. This global experience broadened my perspective and showed me how different cultures approach innovation and problem-solving. It also helped me clarify my own goals, reinforcing my passion for biomedical engineering and the work we are doing at DermaMech. Interacting with diverse communities has enriched my studies and reaffirmed my commitment to bringing life-changing technology to the people who need it most.