SUCCESS STORY

"Tapping into the talents and skills of the emerging workforce while providing interns with valuable learning opportunities is a mutually beneficial endeavour, and support from programs like those facilitated by BioAlberta in partnership with the Government of Alberta help make it easier."

PulseMedica is an Edmonton-based medical device start-up developing revolutionary technologies to image and treat vitreoretinal eye disease. The platform solution integrates cutting-edge technology, including machine learning (ML), advanced 3D imaging systems, and a precise femtosecond laser. These technologies have the potential to provide more accurate disease screening and diagnosis while introducing a safe, effective, and non-invasive image-guided treatment procedure.

PulseMedica is investing in future technology innovators by hiring early career professionals through internship and co-op opportunities. These placements provide crucial real-world work experience and a source of income for interns. For PulseMedica, internships provide a valuable talent pipeline for recruitment, enabling PulseMedica to evaluate interns and co-op students for potential full-time employment by assessing their skills alignment and cultural fit during their internships.

In addition, interns and co-op students play a crucial role in the professional and leadership development of PulseMedica's development team leads, helping them refine their coaching, mentorship and communication skills. The opportunity to guide interns through tasks and projects instills a sense of responsibility and accountability among the team, improving their ability to lead, supervise and cultivate a collaborative and supportive work environment.

Areeba Fazal, PulseMedica intern

Areeba Fazal is a third-year student pursuing a degree in Computer Science at the University of Alberta. She submitted her application for a machine learning internship at PulseMedica because it was "specifically geared towards real-world machine learning (ML) related projects."

Areeba has been working on an ML model for image segmentation aimed at accurately delineating the fovea. The fovea, situated at the back of the eye, is the small, central pit within the retina responsible for facilitating detailed and clear vision. Her goal is to achieve real-time segmentation of the fovea during the imaging of a patient's eye through an ML-based method for locating the fovea in retina images. During her time with PulseMedica, she has also been involved in collecting, processing, and understanding clinical data captured by PulseMedica. Her mentor notes that her work "will become a key component in PulseMedica's system for measuring vitreous health."

Areeba has also assisted with other projects, like developing tools for automating retina data extraction and processing. One of her mentors at PulseMedica mentions that "Areeba was given a challenging project right at the beginning of her internship. She has shown a lot of ingenuity and initiative to learn how to tackle these problems independently." The Machine Learning team notes that Areeba offers "new and creative ideas" during their brainstorming sessions.

Areeba highlights that the most exciting aspect of her work at PulseMedica is the utilization of "real data," in contrast to the synthetic data used in university projects, created solely for seamless model training. Reflecting on her internship thus far, Areeba notes, "Being able to use real data was a big change." She also notes, "I've learned about the work that goes into filtering through data, that it can be messy and difficult to work with, as well as what methods are used to extract relevant information. To me, that was very

Areeba Fazal at work in the PulseMedica facility

valuable for getting real-world experience in the problem-solving that goes into these

projects." A goal of PulseMedica is to ensure that all interns benefit from unique lessons and new knowledge that they wouldn't be exposed to during their coursework.

Areeba also adds, "overall, I've found my work placement at PulseMedica to have given me vital knowledge and information about the real experience of working as a computer scientist. I have grown a lot during this time, in both my technical and interpersonal skills, which I'm excited to implement in my future career."—Areeba Fazal, ML Intern at PulseMedica.

Find PulseMedica on LinkedIn: @PulseMedica | Find the candidate on LinkedIn: Areeba Fazal

PulseMedica on the importance of interns:

Interns at PulseMedica bring new opportunities to tackle short-term projects and assist with workload management, which helps create a healthy balance for the team. With diverse backgrounds, they offer unique perspectives that enhance the team dynamics and foster a culture of knowledge-sharing, respect, and inclusion across the company. Interns bring emerging skills, which challenge the team to adapt and stay up-to-date, reinforcing a culture of humility and continuous learning and innovation.

If you're a student interested in working with PulseMedica, be sure to watch for job openings on your university's job board or reach out to them through their website www.pulsemedica.com/contact-us. They're excited to hear from you!