

# SUCCESS STORY



[www.bioalberta.com](http://www.bioalberta.com)

[www.pulsemedica.com](http://www.pulsemedica.com)



*Ethan Gill at the PulseMedica lab*

Ethan Gill has learned lots of theory about software and development during his software engineering degree, but he wanted to apply this knowledge and gain real-life experience before he graduated. That led him to apply to PulseMedica, an Edmonton based medical device start-up, to turn his theoretical knowledge into real world know-how. BioAlberta's WIL Voucher helped make this a possibility.

Globally, eye diseases such as age-related macular degeneration (AMD), diabetic retinopathy, branch retinal vein occlusion, vitreomacular traction (VMT), vitreous floaters, and glaucoma affect over 500 million people worldwide. Many of these conditions have limited or no options for treatment. Some treatments are painful, invasive and carry a small but real risk of complications such as infection or hemorrhage. PulseMedica is determined to meet a global need by developing a medical device that enables non-invasive precise image guided vitreoretinal laser surgery. They are aiming to provide a safe and effective treatment option for diseases that lack treatment options and improve the standard of care for diseases that are treated with invasive antiquated techniques.

Senior Manager Nikhil Bedi is quick to compliment Ethan's work at PulseMedica: "Ethan played a key role on PulseMedica's DevOps team where he was helping in the development of our surgical planning software." This software is critical for success as it governs the experience that technicians and doctors will have while using PulseMedica's device. Ethan's role was particularly important over the summer because this fall PulseMedica placed its device in an ophthalmology clinic to gather first-in-human data. That means that a portion of Ethan's work is being used in conducting clinical trials!



*Ethan Gill at the PulseMedica lab*

PulseMedica's device is comprised of components that are all interdependent. Ethan says, "Working on a complex system like the one at PulseMedica can feel like putting together a puzzle, where every team is responsible for creating one of the pieces. The most inspirational part of working here has been seeing these puzzle pieces be designed and built, and then watching it all be put together." Due to the complex nature of this device, PulseMedica's team solves numerous engineering problems every day – it is in the solutions to these problems that students demonstrate their tremendous value by bringing new ideas and perspectives to the table. To bring such value to the table, early-stage start-ups with limited resources like PulseMedica rely on funding such as the WIL Voucher to lessen the financial burden of hiring additional personnel. Bedi notes that "WIL funding helped PulseMedica identify early talent and build a talent pipeline which can be accessed as the company's personnel needs to grow."

Ethan leaves us with some final thoughts: "My time at PulseMedica has served as a great steppingstone in my career. Before I started working here, I did not have much experience with software, but I know that I will leave my internship having gained confidence in web development and integration of complex systems. In the future, I want to sharpen my software skills and continue to work on more projects."

PulseMedica is always looking for students in a variety of roles. If you are a student and you would like to work with PulseMedica, please reach out to them at [careers@pulsemedica.com](mailto:careers@pulsemedica.com). They would like to hear from you.

