Two MSK Innovation Competition winners are using technology to revolutionize primary care

From apps to multi-camera systems, young entrepreneurs are changing the journey of diagnosis and rehabilitation

Two local London-based companies are set to make revolutionary impacts on diagnosing musculoskeletal (MSK) diseases, resulting in the potential to revolutionize the way companies are set to make great promise.

With mentoring and financial support from the Bone & Joint Institute’s MSK Innovation Competition, Pickle and teleMDview are close to commercializing innovative tech-based diagnostic solutions. The competition, created by the BJI in partnership with the Morrissette Institute for Entrepreneurship at Western’s Ivey Business School, is designed to enhance, support and celebrate entrepreneurship and the commercialization of MSK innovations. Entrepreneurial MSK experts based in London are invited to participate in the five-stage event that includes a workshop, initial proposal, team selection, mentorship and a final pitch to a panel of judges.

The mentorship aspect of the MSK Innovation Competition was critical to Deans. “We were partnered with John Galbraith, Senior Director, Venture Growth & Corporate Innovation at TechAlliance,” says Deans. “We were able to focus on how to communicate the idea clearly. He was able to help me transition from talking about technology to why this is important and meaningful for each physician. His advice and insight were so valuable.”

Galbraith, an expert in B2B and software, started with an analysis including the journey of developing Pickle and the real value and potential causes and effects. “I'm an MSK rehab physician and an engineer, so I really want there to be a growing interdisciplinary collaboration,” says Ngo. “Participating in the MSK Innovation Competition was an exciting opportunity to see this in action. Our team is already an interdisciplinary team, including physicians, kinesiologists and engineers, including biomedical engineering. We felt that the process was valuable in developing relationships with clinicians in London.”

Blair Poetschke, President, Scintica Instrumentation Inc., the assigned mentor for the teleMDview team, agreed on the value of the process. “Creating a culture of entrepreneurship among our academic scientists is critical to Canada’s future economy,” says Poetschke. “The MSK Innovation Competition is a great example of how we can make this happen.”

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Using AI to help family physicians in a “pickle”

Pickle is an app-based diagnostic decision aid for MSK complaints that took the Grand Prize at this year’s competition. Developed by Alex Deans, a second-year medical student at Schulich School of Medicine & Dentistry at Western University, the app is designed to help primary care physicians, such as family doctors, if they felt they were in a “pickle” while diagnosing a patient.

With team members Dr. Caitlin Cassidy and Dr. Steven Macaluso, Deans used their collective experience working in family medicine clinics to select the three most common issues physicians deal with — back and neck pain, shoulder pain and knee pain — and created a system of algorithms to help screen down the potential causes and develop an informed diagnosis.

The app uses artificial intelligence (AI) to find the highest value of the potential diseases and provides the family physician with the most likely problem. The system helps to rule out certain conditions and provides more information to support the diagnosis, along with a report for specialist referrals.

Deans has an undergraduate degree in Chemical Engineering and developed technology for people with blindness when he was 14 years old. He “found his feet” in medicine through further work with Chevrolet and VIA Rail.

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Providing a new and different perspective to rehabilitation care.

teleMDview’s multi-disciplinary team (2021 Runner-up) is bringing interactive healthcare to physicians, therapists and patients.

Over the past 25 years, Poetschke has founded three separate life sciences manufacturing companies, each a start-up. He started his career in biotech and has developed them into successful global businesses.

That global industry experience combined with an MBA in International Business and a passion for helping entrepreneurs, made him the right mentor for the teleMDview team.

“Working with energetic scientists who have the enthusiasm to implement their ideas was very rewarding,” said Poetschke. “The team’s ability and interest to learn about structuring business plans and investor pitches was exceptional and will be a skill that they use over many years to come.”

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