

Wound Imaging for Healing Assessment and Prediction

CHALLENGE

To provide an automatic way to extract wound healing characteristics and enable the real-time sharing capability, as well as analyzing wound's healing process.

PARTNER

St. Joseph's
Healthcare Hamilton



SJHH is an academic and research hospital located in Hamilton, Ontario. It is affiliated with the Michael G. DeGroot School of Medicine of McMaster University and Mohawk College.

TEAM

- Dr. Michael Walsh, Nephrologist, St. Joseph's Healthcare Hamilton
- Dr. Zhen Gao, Assistant Professor, McMaster University
- Dr. Wael Brahim, Postdoctoral Fellow, McMaster University
- Iris Wang, M.Eng Manufacturing

MILESTONES & OUTCOME

- Specify the project scopes to narrow down the wound's characteristics.
- Rapid prototyping of the software pipeline – mobile and web applications.
- Image data collection and pre-processing.
- Identify difficulties and improve software according to stakeholders' needs.
- Improve the image processing algorithms for higher accuracies.

VALUE

Provides a digital solution for wound examination and prediction with the least human intervention to improve time and efficiency in real-time.

NEXT STEPS

- Create a standardized procedure for image collection from mobile app.
- Improve the image processing algorithms by deploying the deep neural networks.
- Enable more features on both mobile and web apps to improve the user experience.

STUDENT REFLECTION

- Experienced the full cycle of software product development while working with different stakeholders in a clinical setting.
- Leveraged a variety of programming and scripting languages and developed a deeper understanding of the differences and usages among them.

