Undergraduate Student Research Award (URA) – 2023

**Project: Developing Smart Environments Using Interactive Material**

We are developing a new type of smart material created based on plywood, a type of wood commonly used in building infrastructures and household items, such as furniture and floors. Using sensors and machine learning, the proposed smart plywood acquires people’s daily activity information, such as what they do or eat, by allowing a context-embedded object (e.g., user body, food items, electronic devices, home appliances) to be sensed when the object is in contact with it (Figure 1). This data is essential to infer a large variety of user information, including a user’s behavior, preferences, mental health, and physical health conditions, and can enable numerous data-driven applications key to the success of smart home/office environments.

During this internship, the undergraduate researcher will join the human-computer interaction (HCI) group and gain hands-on experience with various aspects of HCI research, including user studies, software or hardware implementation, and data analysis. The student will be advised by Dr. Xing-Dong Yang, and will work with a multidisciplinary team of graduate students from Dr. Yang’s lab and external collaborators from Microsoft Research.

Engineering students are welcome to apply!

More information about Dr. Yang’s research can be found at [https://www.sfu.ca/~xingdong/](https://www.sfu.ca/~xingdong/).

**Desired Qualifications:**

- Excellent GPA.
- Be comfortable working outside your comfort zone.
- Solid programming skills (no specific programming language).
- Interest in hardware prototyping (e.g., circuit development, 3D printing, laser cutting).

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