Fostering Social Connection through Expressive Biosignals

Fannie Liu **Thesis Proposal**

Committee: Laura Dabbish & Geoff Kaufman (Co-chairs)
Mayank Goel (HCII & ISR), John Tang (Microsoft Research)

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Though we are living in a world where social technologies connect more people than ever before, research suggests that these technologies contribute to *declining* feelings of social connection. Social platform design can limit our ability to meaningfully connect with and understand each other, with minimal social cues and inauthentic interactions. To address these issues, I propose ***expressive biosignals*** as a novel intervention to foster social connection over technology. Expressive biosignals are sensed physiological data revealed as a new type of social cue to help people gain a deeper understanding of each other's underlying psychological states. As new means to incorporate biosignals into connected platforms emerge, we must consider how they are shared and perceived, how they influence communication, and how they can be designed most effectively to facilitate positive interactions.

In my thesis, I present a series of studies that address these questions through the design, development, and deployment of expressive biosignals systems that display heart rate and brain activity. My work thus far has focused on the social dynamics involved in sending and receiving biosignals, including people's motivations for sharing their personal physiological data with others, the effects of biosignal sharing on interpersonal judgments, and the new communication patterns such sharing affords. These studies suggest that expressive biosignals can support emotional expression and increase social awareness, felt presence, and empathy between people. In my proposed work, I will explore the potential for expressive biosignals to enhance socially supportive interactions. I will create new systems that integrate supportive feedback for expressed biosignals and run field studies to measure their effects on social connection and well-being. My thesis will articulate the design space for expressive biosignals and contribute novel interventions for improving social connection through clarifying and conveying our internal experiences.

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