IFN712 Research Project Proposal-Form

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| Supervisor name(s) | Laurianne Sitbon |
| Research team members(s) | Chris Rhyss Edwards (HCI PhD Candidate) |
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| Information Technology major(s) | Computer Science / Data Science (User Experience) |
| Project title | Prosody & Perception: Toward a Dataset for Emotional Listenability in Chatbots |
| Brief description of the research problem, gaps, aims, methodology and expected outputs (~200 words) | Conversational technologies are increasingly used for emotional and mental wellbeing support, making user satisfaction vital to their success. While most research focuses on Natural Language Processing (NLP) and generative models that detect and respond to emotional content in text, far less attention has been given to prosody, the rhythm, pitch, and intonation of speech, and its role in shaping emotional engagement.  This study explores how users perceive and are influenced by prosodic variables in voice-based conversational agents. Building on prior reviews that emphasize a reliance on textual emotion detection, it investigates whether and how vocal cues enhance perceived empathy, trust, and psychological safety in human–AI interactions. Understanding prosody’s impact will support the development of more emotionally attuned, accessible voice technologies for mental health support.  To do this, the study examines how users interpret prosodic features in relation to emotional understanding and conversational ease. Despite existing work linking text to emotion, no dataset currently captures how users subjectively experience ease of listening or emotional resonance in response to prosodic variation. |
| Answerable research questions for 3-5 students | 1. How can a dataset be constructed to inform measures of prosodic influence on emotional perception in conversational agents? 2. How can users’ perceived emotional resonance and conversational ease be conceptually defined in relation to prosodic features? 3. What methods can be used to reliably measure users’ responses to prosodic variation, including affective clarity, empathy perception, and ease of listening? |
| 3-5 key references (very preferable for students to start) | https://onlinelibrary.wiley.com/doi/full/10.1155/2022/9601630  https://dl.acm.org/doi/abs/10.1145/3411763.3451660  Additional references will be provided upon contacting the supervisor. |
| Required major of studies, skills, knowledge, and speciality | Students for this project must have experience with user experience projects (including low-risk human ethics) and an understanding of machine learning parameters and datasets. |
| Industry partners (if applicable) | FOLQ Pty Ltd |
| Number of students | 2 |
| Student names (if known) |  |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
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| Remarks on conditions of offer |  |