Personalized Prediction of Recurrent Stress Events Using Self-Supervised Learning on Multimodal Time-Series Data

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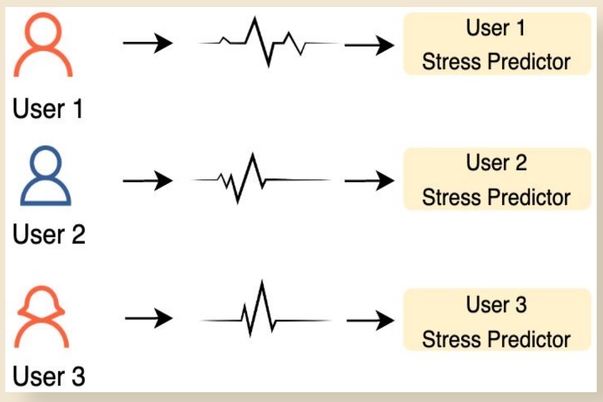
Problem Statement

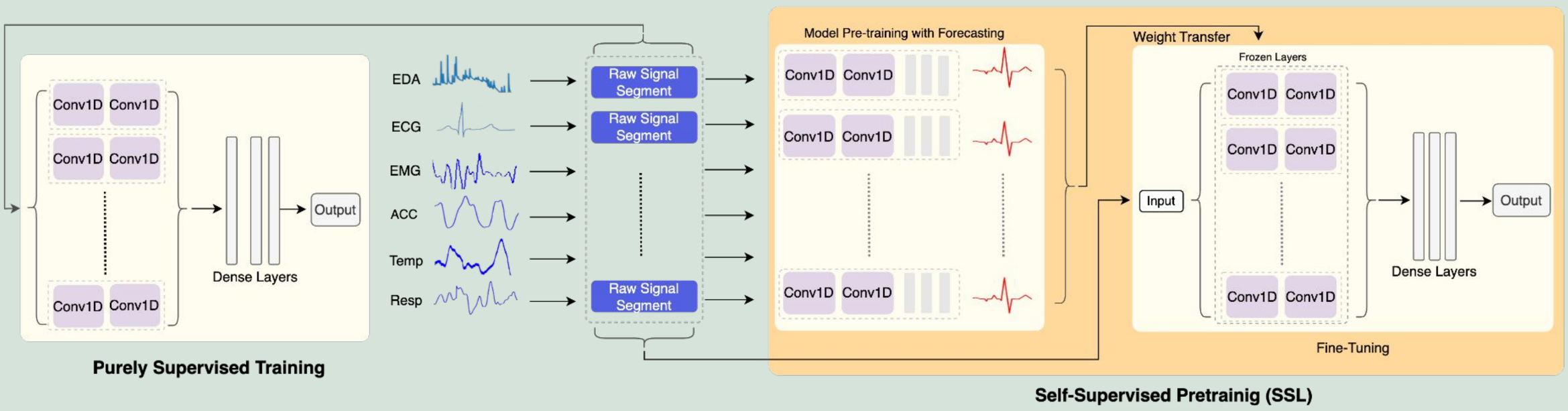
- Counter high-cost label collection
- Navigate individual stress variability
- Simplify feature design from diverse biosignals
- Manage subjectivity and sparse labeling

Overview

Personalized Stress Prediction Models



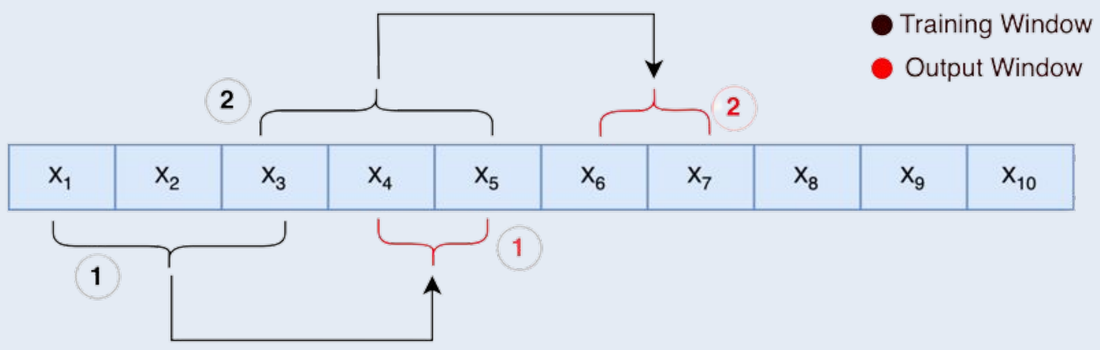
Experimental Procedure



Contribution Summary

- Harness biosignals for immediate stress detection
- Develop user-specific models that learn from diverse biosignals
- Better prediction with less annotation through personalized, self-supervised models

SSL Technique



Experimental Results

Comparison of the performance between SSL pre-training and solely supervised training methods for a demonstrative user

Acknowledgement: The technical support and advanced computing resources from University of Hawaii Information Technology Services – Cyberinfrastructure, funded in part by the National Science Foundation CC* awards # 2201428 and # 2232862 are gratefully acknowledged.