REAL-TIME THERMAL COMFORT PREDICTION USING WEARABLE SENSORS
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OBJECTIVE
To predict real-time thermal preference using physiological and environmental parameters

METHODOLOGY

Subjects: Females (n=8), males (n=8)
Test period: 2 wk, 20 hr/day
Parameters: Skin temperature, heart rate, activities, illuminance, meteorological data
Algorithms: Bayes net, naïve Bayes, logistic, MLP, AdaBoost, random subspace, decision stumps, J48, random tree, random forest

PRELIMINARY RESULTS

• During the two weeks occupants prefer “warmer” or “cooler” conditions ~ 40% of the time
• The average prediction accuracy for thermal preference is 60% - 70%
• Skin temperatures and derivatives are the most important indicators for thermal preference