Towards Ambulatory Mental Stress Measurement from Physiological Parameters

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Background
- Mental stress is a growing problem
- Many people suffer from long-term stress effects, e.g.:
  - Hypertension
  - Cardiovascular diseases
  - Increased likelihood of infections
  - Depression
- Physiological changes as a result of mental stress are measurable
- Majority of studies focus on short-term changes in laboratory conditions

Preliminary Results
- Stress estimation algorithm applied to recently recorded long-term measurements
- Example of outcome:
  - Stressful event (giving a lecture) from 11:45 to 12:30
  - Increased physical activity influences ‘stress level’

Future Work
- Validate stress estimation algorithm for long-term monitoring
- Analyze influence of context factors on physiological data and compensate for this influence
- Personalization of stress estimation algorithm
- Real time stress level calculation and feedback to enable effective stress management

Reference