Wearalyze

Smart Wearable Analytics

קבוצת המחקר
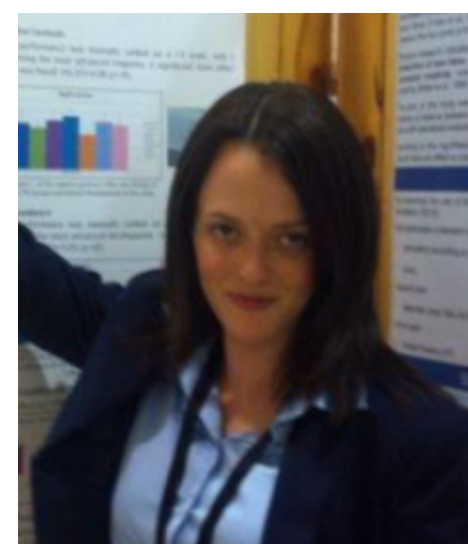
מגישים: אילי גול, מוחמד שמרוך, נועם רכס

מנחה: ד״ר שראל כהן

סדנא: למידה עמוקה בהשראת בעיות מחקריות

ד״ר ענת לן   פרופ׳ חיים עינת   ד״ר שראל כהן
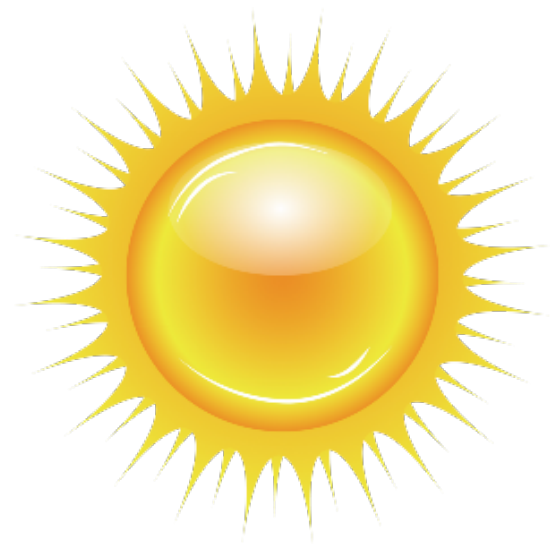
Introduction
Are you a morning or night person?

- Wearalyze, our innovative technology, was utilized in a collaborative project with the School of Behavioral Sciences.

- It is a project that investigates variations in stress levels, functioning, and other factors among behavioral science students based on their diurnal preferences.
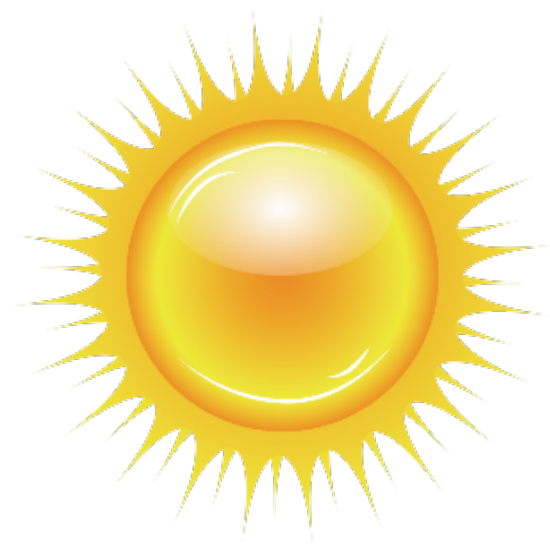
Introduction
Are you a morning or night person?

- Our technology plays a pivotal role in collecting real-time data using Garmin smartwatches, which is then processed and filtered to extract relevant information.

- Wearalyze further provides comprehensive summary tables and insightful graphs to facilitate efficient analysis in specific research domains.

GARMIN.

Project Flow
High level

Smartwatch > **Server** > **Database** > **Analytics**

Analytics

Wearalyze
Smart Wearable Analytics

18,000
Graphs

20
## Data Tables

Analytics
Data Tables

- 20 data tables of specific parameters and research groups by demand.

id	average steps	average heartrate	average stress	average sleeping time	average sleep duration	average midsleep	average waking time
101	3392.33	66.33	18.50	21:12	10.99	02:32	08:00
102	8260.80	91.40	34.80	22:00	13.03	05:00	11:00
105	5422.17	76.67	34.83	00:28	9.54	05:10	09:50
107	5502.50	78.00	31.75	02:00	8.41	06:30	10:30
108	4184.00	82.00	24.00	02:00	8.40	06:00	11:00
109	5852.00	89.40	39.60	00:27	6.89	04:14	07:14
110	5292.00	86.75	44.50	02:00	10.61	07:30	13:00
111	8595.83	72.17	32.17	00:20	9.40	05:10	09:31
112	8999.00	95.75	35.50	02:32	8.16	06:30	10:30
113	4158.00	74.67	34.83	01:19	7.85	05:19	09:10
115	4970.17	83.17	27.00	01:10	7.29	05:10	08:30
116	6801.33	74.33	26.50	01:36	8.87	06:00	10:47
117	3590.00	77.33	25.67	02:16	6.82	05:48	09:10
118	3196.33	76.33	35.00	23:14	9.36	04:00	08:45
119	11923.67	68.33	27.33	02:10	7.72	06:00	09:40
121	2950.20	75.80	29.00	00:45	9.03	05:15	09:31

Analytics
Graphs

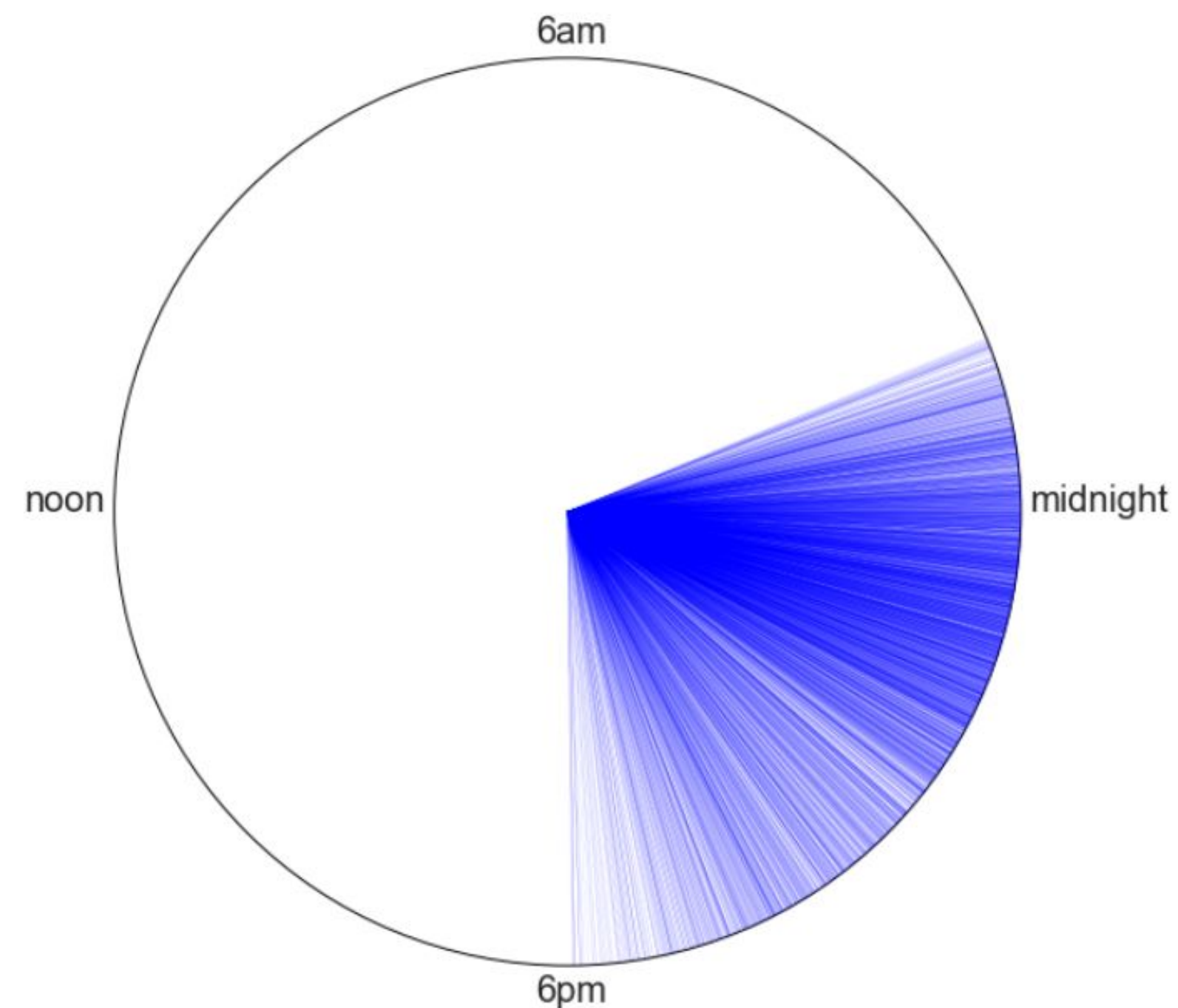- 18,000 graphs, graph for every subject, date and parameter.
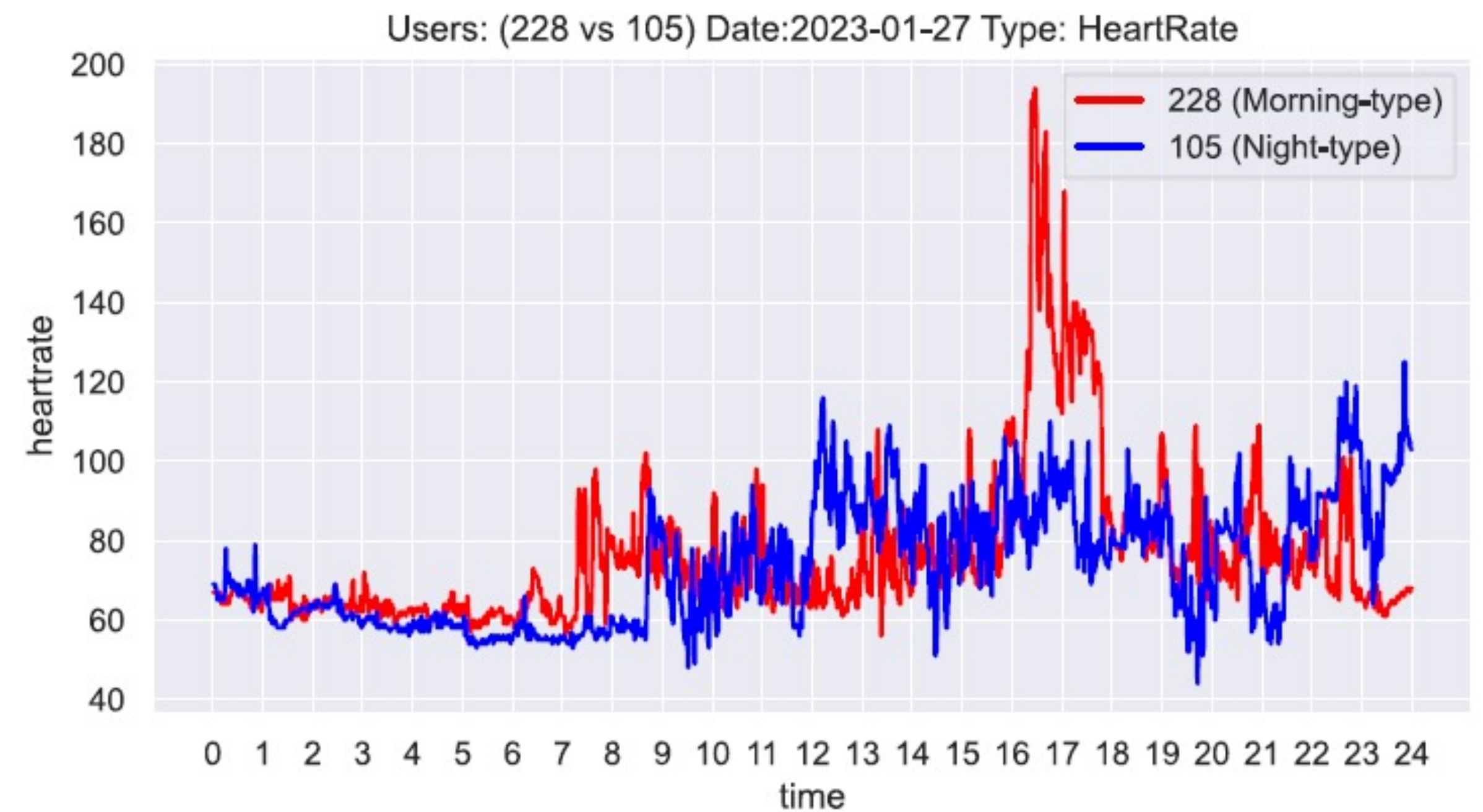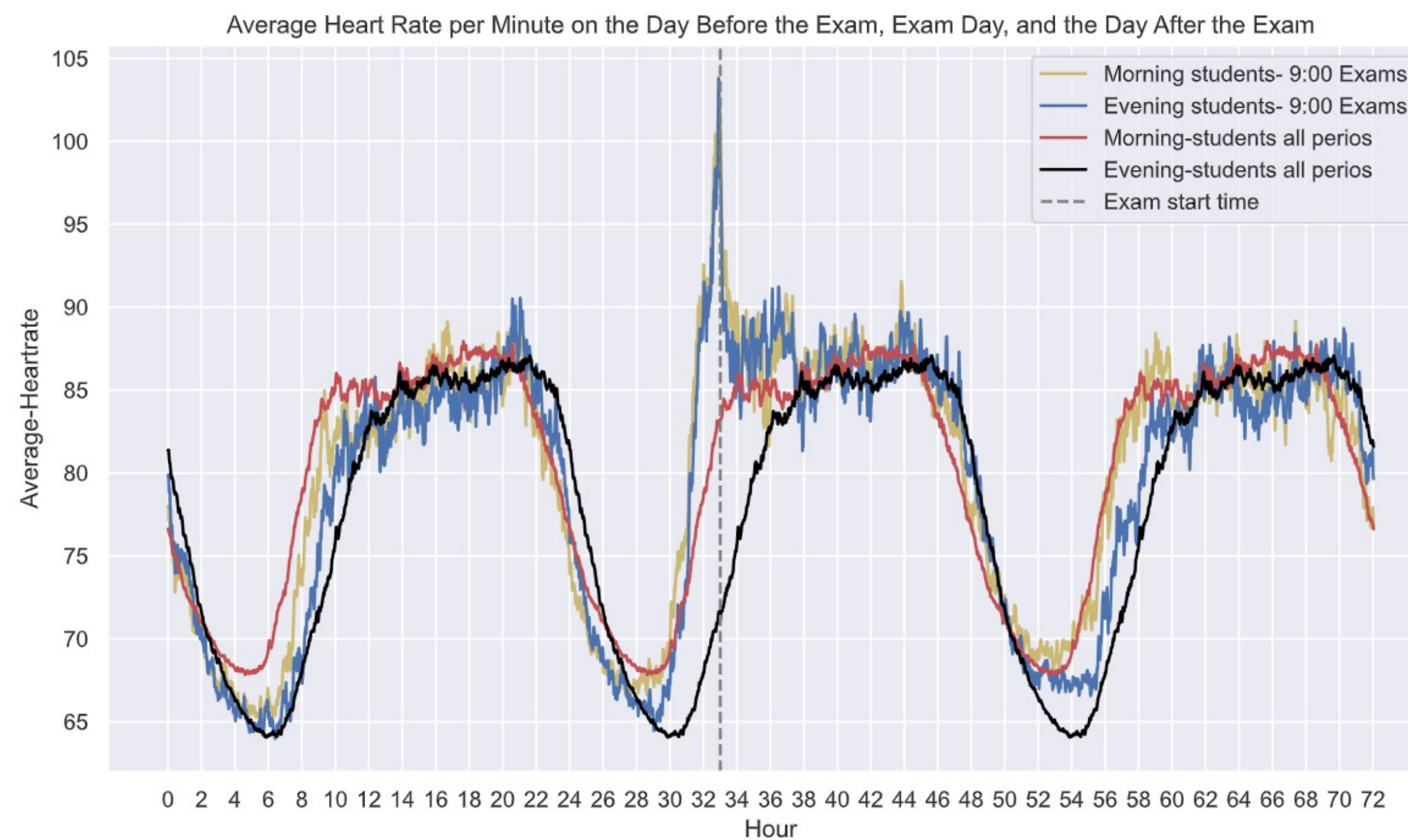
Architecture

Architecture
Sleep time calculation

- We used complex numbers in order to calculate the average sleeping times of the subjects.

Summary

- Exciting collaboration with the School of Behavioral Sciences and accompanying live academic research.

- Full data flow - from collecting and understanding the raw data to analytics and conclusions.

- Learn and experiment with a variety of technologies.