Jan C. Brammer

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Scientist and open source software developer. I love expanding my technical skills while building solutions to challenging problems, especially in the space of sensor data.

Skills

- open source software development
- data science (wrangling, visualization, machine learning, inferential statistics)
- physiological sensor data (electrocardiogram, photoplethysmography, breathing)
- real-time digital signal processing
- technical writing (e.g., documentation)
- experiment design

Technologies

- Python
- Kotlin
- version control (git, GitHub)
- continuous integration (GitHub actions, Travis)
- software testing (pytest)
- GUI development (Qt)
- database (Redis)

Projects

biofeedback application development
repository | article

> Integrated physiological sensor data in a virtual reality training environment for the Dutch police. International, interdisciplinary collaboration of police, game developers, designers, and scientists.

NeuroKit
repository | article

Implemented four core algorithms of one of the most popular open source software projects for physiological sensor data analysis. Remote, international, interdisciplinary collaboration of developers and scientists.

biopeaks
repository | article

Developed an open source graphical user interface for the interactive analysis of physiological sensor data. I used this project as a playground to seriously start working with packaging/deployment, continuous integration, and testing.

predicting psychopathology from physiological data
repository | article

Applied machine learning to investigate if physiological stress responses (heart signals and startle responses) predict the development of post traumatic stress disorder symptoms in police officers. Collaboration of neuro- and data scientists.

Experience

PhD candidate (staff scientist), Radboud University Nijmegen, 2017-present

I investigate how human physiological signals (heart and breathing) are linked to psychopathology and how they can be used to help people regulate their stress reactivity. My tasks range from software development and data science to presenting and publishing scientific articles.

Education

MSc Cognitive Neuroscience, Maastricht University, 2015-2017
BSc Psychology, Maastricht University, 2012-2015