**EDGE IMPULSE**

ŌURA

Can Machine Learning Improve Sleep and Health?

By leveraging the Edge Impulse platform to source and analyze data, Oura rapidly made sense of clinical results. They were able to build an optimal data set with the specific heart, motion, and temperature readings needed to improve their algorithm.

Now the Oura Ring delivers unprecedented sleep-scoring accuracy and their developers can easily explore more ways to help people thrive.

Heart   Motion   Temp
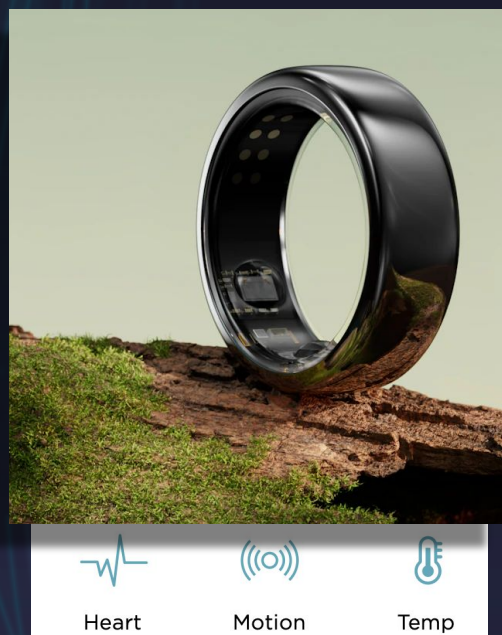
Data Collection | Data Management Pipeline | Preprocessing

Clinical-Quality Results	79% Correlation Accuracy	Data-Driven Development Process
17% point increase in scoring accuracy, for clinical-quality results in an at-home device.	The Oura ring can now provide the most accurate wearable sleep tracking in comparison to PSG sleep study.	**INCREASED** • Efficiency • Accuracy • Scalability

Edge Impulse helps companies scale and productize clinical-grade edge AI health devices and wearables optimized for low power and cost.

Learn more at edgeimpulse.com

sales@edgeimpulse.com

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KNOW LABS

Glucose Monitoring To Get Easier with Novel Sensor and ML

Know Labs has developed a new method to monitor blood glucose non-invasively using a radiofrequency sensor.

They've built a data pipeline to manage and interpret large and novel datasets from the sensor, and validated algorithms using Edge Impulse.

Recent clinical study results revealed a MARD of 11.3% when compared to a commercial CGM. Future studies will expand data collection among a broad population and using a gold-standard reference device.

Data Collection | **Data Processing** | **Algorithm Validation**

Accelerated Data Collection	Novel Data At Scale	Model Development
Data processing pipeline allowed for accelerated data collection in ongoing clinical research.	The Edge Impulse platform was able to manage and interpret novel data from a novel device at scale.	Rigorous methods employed to produce validated algorithms to quantify accuracy against medical-grade standards.

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Hyfe

Hyfe Publishes Scientific Paper: "Towards a Neural Cough Classifier for Edge Devices"

Hyfe used Edge Impulse to develop neural models for a software development kit (SDK) that allows third parties to integrate cough detection in their own embedded devices.

Hyfe **achieved a sensitivity of 90.9%** with specificity of 99.7% by using Edge Impulse on their best model (trained on Mel-Filterbank Energy features).

"This work demonstrates that reliable and efficient cough detection in real-time on embedded devices is attainable" ~ Hyfe

Cough Detection in Real-Time

Dataset Training	Read the Full Paper
Coughs: 85,705 **Non-coughs:** 3,388,168	

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ML Keeps First Responders Safe When They're Most at Risk

In just 10 days, working with the vast amount of biometric data generated from the field, SlateSafety and the Edge Impulse team were able to zero in on key parameters and create an accurate, compact algorithm for predicting heat exhaustion.

Time® magazine named SlateSafety's BAND one of the best inventions of 2021.

| Core Body Temperature | Heart Rate | Current Exertion |

Specialized Biometric Monitoring

Real-time Situational Awareness	Accurate & Efficient
To avoid overexertion injuries and fatalities, even in areas without connectivity in real-time.	ML algorithm ready to run on SlateSafety's existing Nordic-based device.

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