One-page pitch: StrokeAI

About 48 million individuals in Europe are at high risk of a stroke [1]. Prevention could help, but patients are unaware of their immediate risk. Patients have to be monitored at least 72h at home using mobile ECG devices to realistically detect the main risk for stroke, arrhythmia. Detecting and treating arrhythmia is not only recommended but also vital, but hospitals do not have enough highly experienced doctors to keep up with the demand or to prioritize patients. Currently, the European Society of Cardiology Guidelines and recent studies are advocating for arrhythmia screening (e.g. based on age >65) [2–4]. Once patients at risk have been identified, current treatments have shown 70% stroke risk reduction [5]. However, mass screenings are not always feasible, and more sophisticated guidelines have a decreased chance to be actually implemented by doctors in their daily work.

More recent work by Symptoma throughout a Eurostars project ("CardioDSS") has shown that their AI can identify patients at risk of having arrhythmia based on patients' symptoms, signs, and history. Inova has shown their capability detecting arrhythmia via novel wearable concepts. Combined, we can objectively identify patients at risk and conduct a user-friendly assessment, where patients are not constrained by a clumsy recording device.

Our goal is to help doctors decrease risk of stroke by 70% by diagnosing these patients early. We will attain this goal by developing an AI covering stroke risk from end to end capitalizing on (1) a dynamic chatbot assessing each patient's case, (2) break-through ECG wearable enabling 72h home monitoring at real world conditions, (3) automatic detection of ECG features, and (4) an AI creating standardized reports including diagnostic interpretation and a stroke risk score.

Stroke.AI aims at better prediction and prevention of stroke and increases patients' independence and dignity while reducing costs. It allows patients to receive recommended screening determined by their individual need for such investigation, rather than limited by economic or resource related reasons, allowing for personalized medicine.

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5.   Hart RG, Pearce LA, Aguilar MI. Meta-analysis: antithrombotic therapy to prevent stroke in patients who have nonvalvular atrial fibrillation. Ann. Intern. Med. 2007;146(12):857-867. doi:10.7326/0003-4819-146-12-200706190-00007.