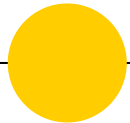*SADLE: Services and Applications Based on Deep Learning for eHealth*

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- The availability of a wide variety of medical data has made machine learning based applications possible.
- The possibility of finding common factors between information from widely different data sets is a fundamental for providing widely available, acceptable and reliable machine learning based medical diagnosis and support tools

Application Areas

- Many areas of application have been analyzed in research papers (e.g. medical image analysis including X–Ray, CT, RM, ultrasound, etc. or patient support aids for many chronic deceases).
- Deep learning approaches have not been extensively evaluated in many realistic medical situations for a wide range of problems and, in many cases, the results come from very limited data.

Submitions I

The received papers cover a wide variety of applications related to medical applications of Deep Learning technologies. Application include inteligent assistive techonlogy, medical diagnosis aid, ambient assisted living and explainable deep learning systems.

The first paper "Lower–Limb Falling Detection System Using Gated Recurrent Neural Networks" is related to possibility of using an AI enabled embedded device for the detection and prevention of fall in older users.

Submitions II

- "Incremental Learning For Fundus Image Segmentation" is related to diagnosis aids considering specifically the case of glaucoma.
- "An Approach to Explainable AI for Digital Pathology" deals with the acceptability of deep learning tools by medical professionals and the possibility of tools that explain their results.
- "EMG-Controlled Robotic Prosthetic Arm With Neural Network Training" deals with the design of low cost AI based prosthetics.

Conclusions

- A wide range of deep learning based medical technologies are becoming widely available for solving practical everyday problems.
- This tools can be directed to help professionals in their diagnosis, patient in their daily life or even both cases simulataneously.
- From the presented work it should become clear that these technologies will become more and more part of our life in the near future.