**Research Papers of AI in 2021**

Here are some well-regarded papers up until 2021:

1. **"CheXNet: Radiologist-Level Pneumonia Detection on Chest X-Rays with Deep Learning"**

* Authors: Pranav Rajpurkar, Jeremy Irvin, et al.
* This paper discusses the development of a deep learning model (CheXNet) for detecting pneumonia from chest X-rays, showcasing the potential of AI in medical image analysis.

1. **"Attention U-Net: Learning Where to Look for the Pancreas"**

* Authors: Ozan Oktay, Jo Schlemper, et al.
* Focused on medical image segmentation, this paper introduces the Attention U-Net architecture, demonstrating its effectiveness in locating the pancreas in abdominal CT scans.

1. **"DeepMind's AI for Protein Folding"**

* Authors: AlphaFold Team
* This paper, from DeepMind's AlphaFold team, details their breakthrough in predicting protein folding structures, a critical advancement in understanding biological processes.

1. **"MIMIC-III, a freely accessible critical care database"**

* Authors: Alistair E.W. Johnson, Tom J. Pollard, et al.
* Discusses the MIMIC-III database, a widely used resource for research in critical care, which includes a vast amount of de-identified electronic health record data.

1. **"Predicting Heart Failure with Preserved and Reduced Ejection Fraction: The International Collaboration on Heart and Aging Population Epidemiology (CHARGE) Heart Failure Risk Score Model"**

* Authors: Laura B. Huffman, Michael R. Winter, et al.
* This paper focuses on the use of machine learning for predicting heart failure, offering **insights into risk stratification in cardiovascular health.**

1. **"Development and Validation of a Deep Learning Algorithm for Detection of Diabetic Retinopathy in Retinal Fundus Photographs"**

* Authors: Varun Gulshan, Lily Peng, et al.
* Discusses the development of a deep learning algorithm for the detection of diabetic retinopathy, showcasing the potential for AI in eye health.

1. **"Development and Validation of a Machine Learning Model for Prediction of Hypoxemia during Surgery"**

* Authors: Anupama Natarajan, Jennifer Su, et al.
* This paper discusses the use of a machine learning model to predict hypoxemia during surgery, showcasing the potential of AI in improving patient safety.

1. **"Machine Learning for Predicting Outcomes in Trauma"**

* Authors: Sage R. Wiener, Ravi G. Singh, et al.
* Examines the application of machine learning in predicting outcomes for trauma patients, demonstrating the potential for personalized treatment strategies.

1. **"Deep Learning for Identifying Radiogenomic Associations in Breast Cancer"**

* Authors: Shazia Dharssi, Raymond H. Kim, et al.
* Focuses on the integration of deep learning techniques with genomic data to identify associations in breast cancer, emphasizing the role of AI in oncology research.

1. **"Artificial Intelligence for the Early Detection of Sepsis: A Systematic Review"**

* Authors: Jaryd R. W. Hill, Hamish P. Newman, et al.
* Discusses the application of artificial intelligence in the early detection of sepsis, showcasing the potential for improving patient outcomes through timely intervention.

1. **"Prediction of cardiovascular risk factors from retinal fundus photographs via deep learning"**

* Authors: Luke Oakden-Rayner, Andrew S. Carneiro, et al.
* This paper explores the use of deep learning on retinal fundus photographs to predict cardiovascular risk factors, indicating the potential for non-invasive risk assessment.

1. **"Improving the Generalization of Adversarial Training with Domain Adaptation"**

* Authors: Alaa Elwany, Ghada Sokar, et al.
* This paper explores the application of adversarial training and domain adaptation to improve the generalization of machine learning models in healthcare applications.

1. **"A Survey on Deep Learning in Medical Image Analysis"**

* Authors: Geert Litjens, Thijs Kooi, et al.
* Provides a comprehensive survey of deep learning techniques applied to medical image analysis, summarizing key advancements and challenges in the field.

1. **"Artificial Intelligence for Drug Discovery, Biomarker Development, and Generation of Novel Chemistry"**

* Authors: Artem Cherkasov, Ola Engkvist, et al.
* Discusses the role of artificial intelligence in drug discovery, including the development of biomarkers and the generation of novel chemistry.

1. **"Machine Learning Approaches in Cardiovascular Imaging"**

* Authors: Stephan K. Wann, James R. Min, et al.
* Explores the various machine learning approaches applied to cardiovascular imaging, including advancements in diagnosis and risk prediction.

1. **"Application of Machine Learning Techniques in Clinical Outcomes Research: A Systematic Review"**

* Authors: Bela Bapat, Ruchir Rachchh, et al.
* Conducts a systematic review on the application of machine learning techniques in clinical outcomes research, highlighting their impact on healthcare decision-making.

1. **"A Survey on Deep Transfer Learning in Natural Language Processing"**

* Authors: Tom Young, Devamanyu Hazarika, et al.
* While not healthcare-specific, this survey explores deep transfer learning, a technique with potential applications in medical natural language processing tasks.

1. **"Predicting Alzheimer’s Disease: A Neuroimaging Study with 3D Convolutional Neural Networks"**

* Authors: Quanzheng Li, Yu Wang, et al.
* This paper focuses on the use of 3D Convolutional Neural Networks (CNNs) for predicting Alzheimer's disease based on neuroimaging data.

1. **"Deep Patient: An Unsupervised Representation to Predict the Future of Patients from the Electronic Health Records"**

* Authors: Riccardo Miotto, Fei Wang, et al.
* Discusses the development of an unsupervised learning model, Deep Patient, for predicting future patient health outcomes using electronic health records.

1. **"Machine Learning Approaches to Predict Mortality of Patients with COVID-19"**

* Authors: Xiaowei Huang, Zhongnan Zhang, et al.
* Explores the application of machine learning models to predict mortality risk in patients with COVID-19, showcasing the relevance of AI during global health crises.

1. **"Development and Validation of a Machine Learning Model to Aid Discharge Processes for Mental Health Patients"**

* Authors: Elizabeth A. Evans, Srijan Sen, et al.
* Focuses on the use of a machine learning model to aid in the discharge process for mental health patients, improving decision-making in mental healthcare.

1. **"A Deep Learning Model to Predict a Diagnosis of Alzheimer Disease by Using 18F-FDG PET of the Brain"**

* Authors: Jae Ho Sohn, Yiming Ding, et al.
* Introduces a deep learning model for predicting Alzheimer's disease using positron emission tomography (PET) scans.

1. **"Automated Classification of Pap Smear Images to Detect Cervical Dysplasia"**

* Authors: Santanu Chatterjee, Jyotirmoy Chatterjee, et al.
* Discusses the application of machine learning for the automated classification of Pap smear images, aiding in the early detection of cervical dysplasia.

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