

Yunan Wu

Northwestern University, 633 Clark St., Evanston, IL, 60208, U.S.
(773)312-1287, yunanwu2020@u.northwestern.edu

I am currently a doctoral candidate (4th year) at Northwestern University, majoring in Electrical Computer Engineering (ECE) and my advisor is [Professor Aggelos Katasaggelos](#). My academic PhD study in ECE and two years of master program in Biomedical Engineering prepare me to work on varieties of interdisciplinary projects. My research interests include computer vision, AI related to medical or healthcare field, such as:(a) signal processing on physiological parameters [14], (b) upgrading AI algorithms [2,4,6,8], and (c) using novel deep learning methods (DL) to make clinical predictions on MRI [1,3,5,10,11,12,13], CT [9] and X-rays [7], as shown in my curriculum vitae. For Example, we developed a rapid Covid-19 diagnosis system in early 2020 by using an ensembling AI model on x-rays. We are currently expanding this to make risk level prognosis with additional lab results. We also proposed a semi-supervised method in detecting hemorrhage at scan-level but can visually localize subtypes of hemorrhage at slice-level. In addition, our group is using graph-based ML models to predict Alzheimer's disease at an early stage of olds and cognitive scores in kids. With those experiences, I believe my research has clear links with a lot of different applications, where my ML and medical background can play a role in promoting AI healthcare.

Not only the AI medical field, but I am also interested in other fields in my daily life. Currently, I am collaborating with the [Gravity Spy Group](#) to build models to detect gravitational waves, which also involves hundreds of volunteers to see how those approaches can enable them to find meaningful and potential causal connections between data in very large datasets. In addition, I designed an application, called '[Go Selfies](#),' to do photo and video background removal operations in seconds, which works well in changing ID backgrounds and hiding live video environments. Furthermore, I work with the art institute to build a pipeline that can automatically identify pigments in a painting. These wonderful and interesting experiences enable me to understand that a diverse team can make academia stronger, and this is the reason why I want to have this opportunity to work with a more diverse group.

During my study, I am also fortunate enough to work with diverse groups and caring partners, who give me many opportunities to share my individual thoughts. At the same time, I am in an interdisciplinary field, which is a collaboration between physicians, engineers, and even patients. Physicians provide specialized knowledge for scientists to construct the pipelines and engineers further optimize it after getting feedback from patients. These experiences have built my confidence and I am looking forward to working with new teams.

Don't hesitate to let me know if you have any questions.