

TCS/22/21 – Stratifying Risk Of Visual Loss From Glaucoma: Developing A Computational Tool.

Glaucoma, which affects 2 in every 100 people over the age of 40, can lead to irreversible sight loss and blindness. While some patients lose vision quickly, others are at relatively low risk and experience slower changes in sight. Our goal is to use routinely collected eye data to develop a computational tool for identifying individuals at high risk of visual loss, ensuring they are targeted to receive appropriate specialist treatment quickly, while individuals at lower risk can receive less intensive monitoring via their local optometrist and care that is closer to home. With ophthalmology being the busiest outpatient service in the NHS, our research will help alleviate pressure on hospital eye services, free up skilled clinicians to focus on patients at high risk of blindness, reduce backlogs and shorten waiting times (current long waiting times mean some patients will lose vision). This will lead to significant savings for the NHS as well as saving vision and improving quality of life for patients. The involvement of a specialist company will facilitate the future translation of our research into real healthcare. The project leverages our 20-year research experience in image processing and artificial intelligence for eye data analysis.