**PROJECT RESUME**

**TITLE**: Development of an AI-based deep learning analytical method for the accurate and precise detection of blood vessels in the human spinal cord.

Tissue from Anatomical donors represent a precious resource for investigative microscopical studies of the human spinal cord. Recently, we demonstrated that routine embalming of donors is capable of sufficiently preserving the human spinal cord for detailed histological investigation (Trucas et al. (2024) J. Anat, doi: 10.1111/joa.14188). This project aims to build on this work by training an artificial intelligence-based deep learning algorithm to accurately and precisely detect blood vessels in the meninges, grey and white matter in cervical, thoracic and lumbar spinal cord. This work will validate the use of an optimised AI-based analytical approach while also generating novel data on blood vessel distribution in the different spinal cord levels. The successful completion of this work will aid in the development of new avenues of histological investigation in embalmed human spinal cord tissue while also expanding the impact and generosity of anatomical donors beyond traditional teaching.

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