IMPERIAL

SURG70006 Group Project
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Project 19
Surgical Robot Instrument Pose Estimation

Group Number: Group 8

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References

[1] D. Kundrat, G. Dagnino, T. M. Y. Kwok, *et al.*, "An mr-safe endovascular robotic platform: Design, control, and ex-vivo evaluation," *IEEE Transactions on Biomedical Engineering*, vol. 68, no. 10, pp. 3110–3121, 2021. DOI: 10.1109/TBME.2021.3065146.

[2] M. Fiala, "Artag, a fiducial marker system using digital techniques," in *2005 IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'05)*, vol. 2, 2005, 590–596 vol. 2. DOI: 10.1109/CVPR.2005.74.

Glossary

AES Adaptive Exponential Smoothing[1] 2

OpenCV OpenCV (Open Source Computer Vision Library) is a library of programming functions mainly for real-time computer vision. Originally developed by Intel, it was later supported by Willow Garage, then Itseez (which was later acquired by Intel). The library is cross-platform and licensed as free and open-source software under Apache License 2. Starting in 2011, OpenCV features GPU acceleration for real-time operations.[2] 2