



Optimization Seminar Series

Wednesday – March 23, 2016

1:00 pm – D633

Title: A Comparison of Rotation Parameterisations for Bundle Adjustment

Speaker: Nurgul Aimaiti

Abstract: Bundle Adjustment is an iterative process where 3D information is estimated from 2D image measurements. Typically, the position of object points are estimated simultaneously with the position and orientation of the cameras. While the object points and camera positions have a straightforward "natural" parameterisation, several possibilities exist for the rotation. In this thesis, seven parameterisation of the rotation were investigated; Euler angles (two variants), the Rodriguez representation, the axis-and-angle representation, unit quaternions, and two variants of the direction cosine matrix (DCM).

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