Assignment 4

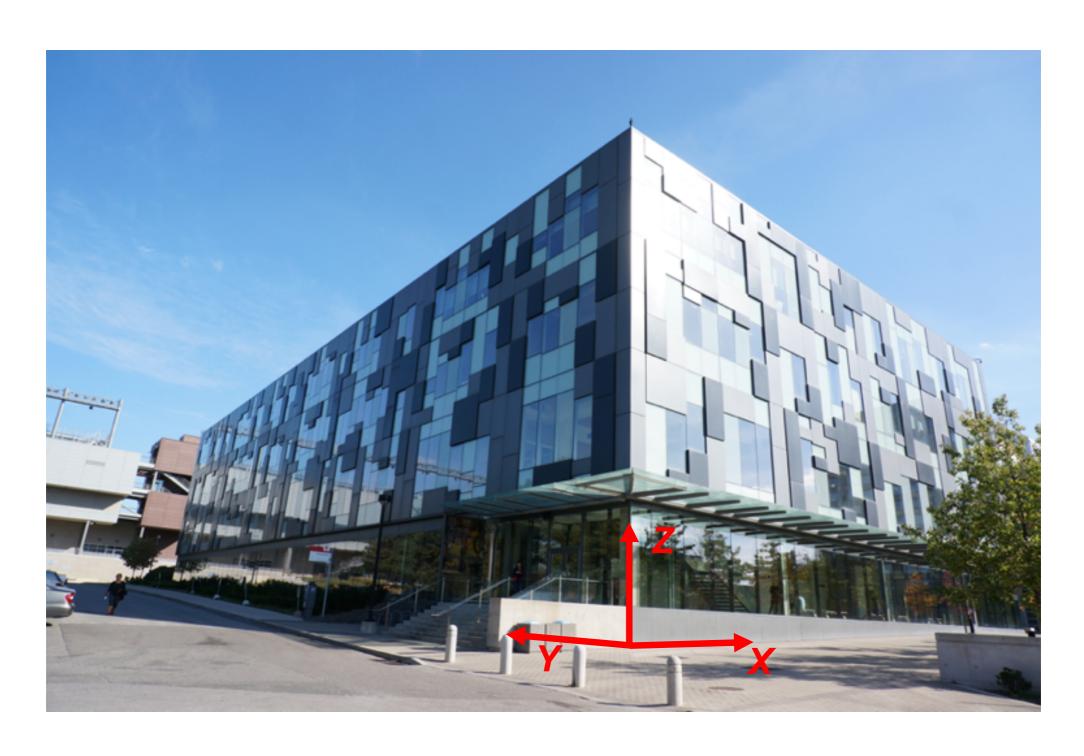


Please download a fresh copy of the assignment and MATLAB functions to display the rotations - they have both been updated.

Assignment 4 Q2



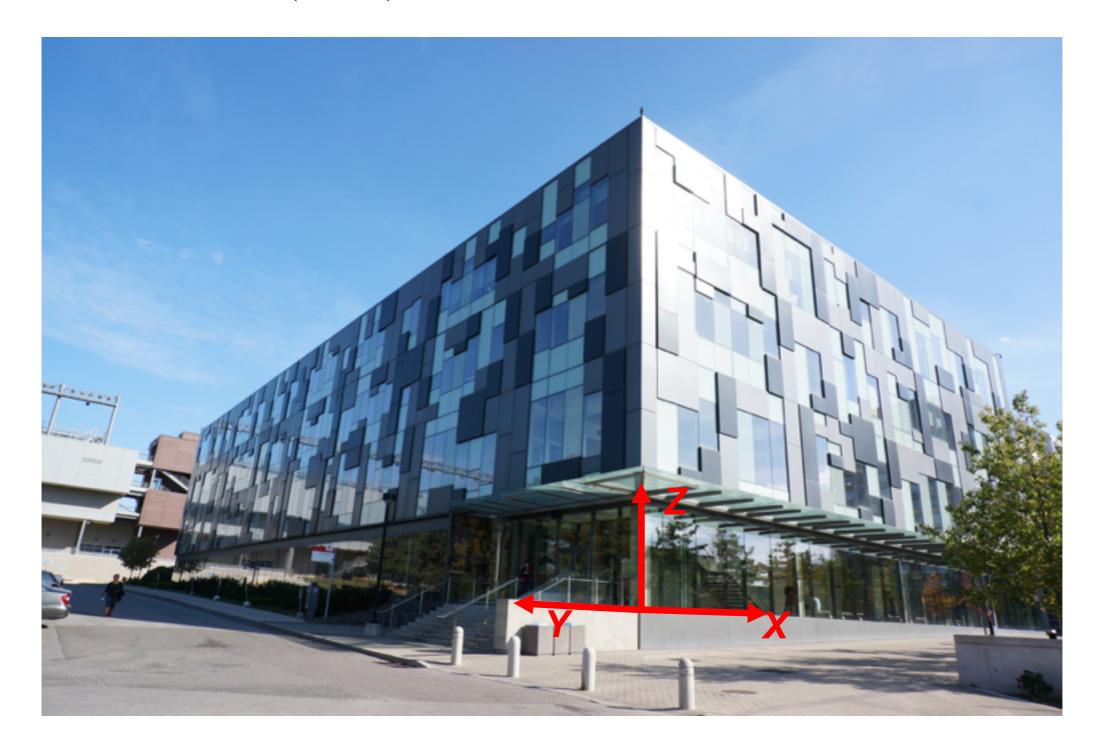
Old world frame (wrong)



Assignment 4 Q2

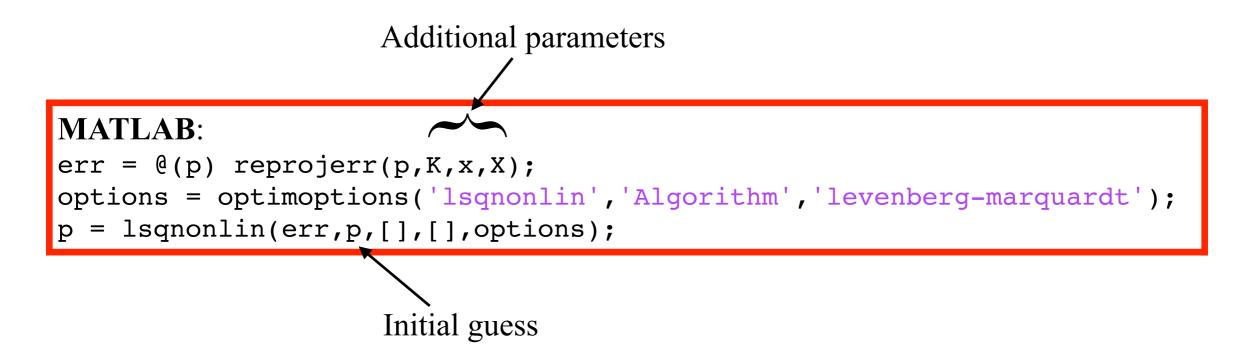


New world frame (correct)



Nonlinear Pose Estimation: MATLAB





* reprojerr is a user-supplied function that returns a column vector of signed deviations (not squared).

Assignment 4 Q2-3



❖ Be careful with MATLAB functions **rotationMatrixToVector** and **rotationVectorToMatrix**. They are self-consistent, but do not use the right-hand rule.

Assignment 4 Q3



- To report your bootstrapped uncertainty in the estimated rotation matrix, report the RMS angular deviation (in deg) between the bootstrapped frames and the ML frame.
- Recall that the relative rotation R_{12} between two rotations R_1 and R_2 is $R_1R_2^{-1}$
- This can be converted to an angle using the MATLAB function **rotm2axang**.

Project Demos

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- This Mon Dec 3 4pm-6pm in Bergeron 211
- Each demo should be no more than 5 minutes long
- ❖ The order of presentations will be random

Course Evaluation



- ❖ I will be reserving a few minutes at the end of the lecture to give you time to complete the online course evaluation for our course.
- **Course evaluations are important for a number of reasons:**
 - To inform curricular review and improvement;
 - To provide students with course feedback to make informed course selections;
 - To help mentor faculty and select candidates for teaching awards;
 - To provide Tenure & Promotion committees with individual teaching and comparative data.
- Please take the time to complete an evaluation for our course. Comments are particularly helpful.