This assignment does not count toward the final grade.

Bonus HW3

Submit Assignment

Due Mar 8 by 12pm **Points** 0 **Submitting** a file upload

35 bonus points for the Midterm Exam

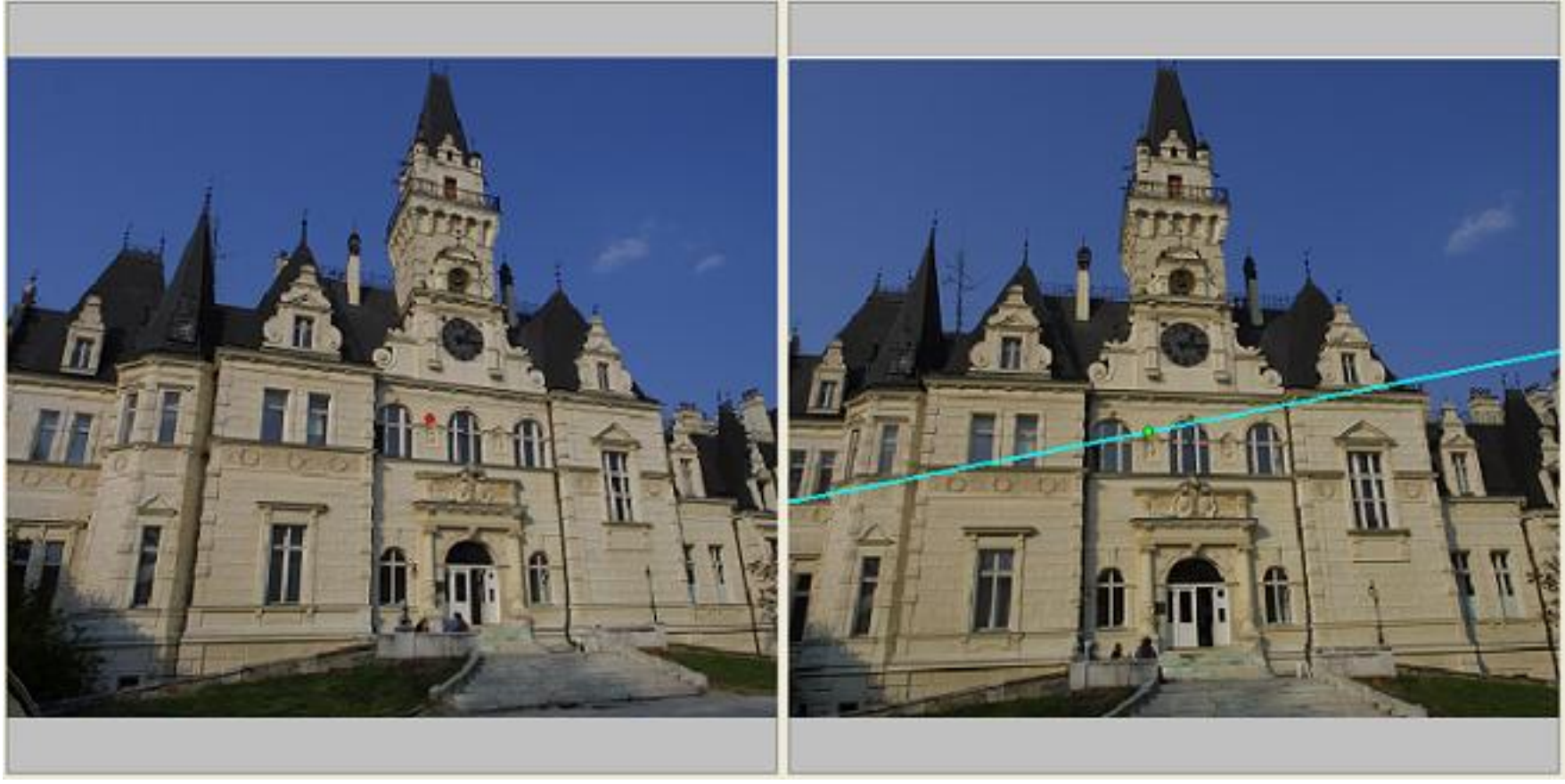
For every stereo pair of images:

1) Use the 100 one-to-one matches C of their interest points that you computed for regular HW3, and construct the 100x9 matrix W (slide 18 in CS537_12.pdf).

2) Implement the RANSAC algorithm to estimate their fundamental matrix $F^{(2)}$ only from W (without using the manual matching result $C^{(0)}$).

Turn in a PDF report with the following information:

1. (5 x 2 points) Five fundamental matrices $F^{(2)}$ for every stereo image pair;
2. (5 x 4 points) Five figures of the stereo image pairs depicting the following:
    1. (1 point) Clearly mark one example point selected in image 1, and the corresponding epipolar line in image 2 of the point selected in image 1 for $F^{(2)}$, as illustrated in the figure below.
    2. (1 point) Also, in the same figure, clearly mark another example point selected in image 2, and the corresponding epipolar line in image 1 of the point selected in image 2 for $F^{(2)}$.
    3. (1 point) In the caption specify: the row and column of the point you selected in image 1, the row and column of the point you selected in image 2, and parameters of their two corresponding epipolar lines for $F^{(2)}$. Also in the caption, comment if the epipolar lines (closely) pass through the right points.



3. (5 x 1 points) Five figures of the stereo image pairs with clearly marked epipoles in image 1 and image 2 for $F^{(2)}$. In the caption, specify coordinates of the two epipoles.