For the PA reports:

→ A narrative report (typically about 5-8 pages long)

Not like answering a quiz or homework assignment!

- The mathematical approach taken
- The algorithmic steps followed
- An overview of the structure of the computer program, sufficient to enable someone with reasonable skill (the grader) to understand your approach and follow your code.
- The steps taken to verify that the program is working correctly. Typically, this would take the form of a discussion of the results using the debugging examples.
- A tabular summary of the results obtained for unknown data
- A short discussion for the results of running your program. This certainly includes the tabular summary above but may also include a discussion of convergence if you adopt an iterative process or of difficulties if you suspect that your answer is wrong.
- A short statement of who did what.
General report structure

• Mathematical approach
• Algorithmic steps
• Overview of program
• Verification of program
• Results
• Discussion
• Short statement of work allocation
Description of formulation and algorithmic approach

• Mathematical Approach
  • 3D-3D Registration
  • Pivot Calibration
  • Calculating Expected EM markers position w.r.t EM tracker
  • EM Pivot Calibration
  • Optical Pivot Calibration

• Algorithmic Steps
  • 3D-3D Registration
  • Pivot Calibration
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• 3D-3D Registration
  • Mathematical Approach
  • Algorithmic Steps

• Pivot Calibration
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  • Algorithmic Steps

• Calculating Expected EM markers position w.r.t EM tracker
  • Mathematical Approach
  • Algorithmic Steps

• EM Pivot Calibration
  • Mathematical Approach
  • Algorithmic Steps

• Optical Pivot Calibration
  • Mathematical Approach
  • Algorithmic Steps
Overview of Program

• Overview of program *structure* (hierarchy chart, table, or diagram)
  + Sufficient description of functions, variables, objects
Verification of Program

- Testing with debug datasets
- Component level testing $\rightarrow$ unit testing for all essential algorithms
Results and Discussion

• Tabular summary of results
• Sufficient discussion of results
  • Describe average error between the given output and your calculated output for each dataset
  • Figures/charts can be useful
  • Reasonable error analyses
Final Note

• For all following programming assignments:
  • Only final submissions on Gradescope will be graded
  • Please reach out before the submission deadline if you encounter any submission issues
  • Please double-check your submission before the submission deadline
  • Make sure to add your group member on Gradescope
  • Only work within your group and make sure to cite any external sources that you use in your code
  • Work together with your teammate