

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
 - Calculating Expected EM markers position w.r.t EM tracker
 - EM Pivot Calibration
 - Optical Pivot Calibration

Example Structure 1

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

Example Structure 2

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 → 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