



Student Technical Training Report

This template should be filled to be (3-5 pages) including (4-6 figures)

Student Information

Name	Mustafa Sayed Al-Said Mohamed		
Student ID	1900361	GPA	3.17
Program	Computer and systems engineering – mainstream	Level	Sophomore
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Training Authority Information

Training authority name	Coursera		
Name of contact person/authority supervisor	David Dye	His/her title	Professor of Metallurgy
Training start date	2022-09-08	Training end date	2022-09-16
Telephone/mobile	None		
Email	None	Website	Coursera
Address	None		
City	None		

1. Student Training Details

List here the projects you worked on (with a brief description):

- Implemented python codes and functions that serve as the foundations which the machine learning field is built upon
- Dealt with vectors and reflections over a specific axis
- Implemented several python codes that deal with matrices to calculate inner products and other useful formulas
- Implemented code for page rank

```
# First load Pyplot, a graph plotting library.
%matplotlib inline
import matplotlib.pyplot as plt

# This is the matrix of Bear's basis vectors.
bearBasis = np.array(
    [[1, -1],
     [1.5, 2]])

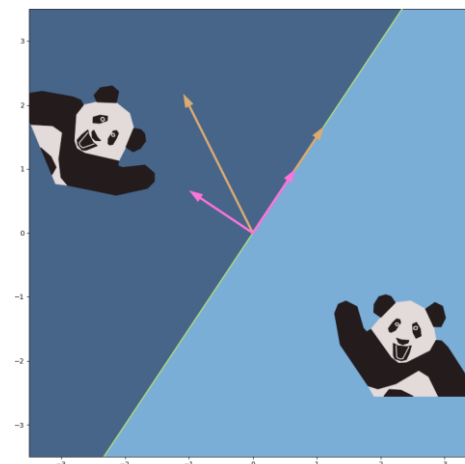
# This line uses your code to build a transformation matrix for us to use.
T = build_reflection_matrix(bearBasis)

# Bear is drawn as a set of polygons, the vertices of which are placed as a matrix list of column vectors.
# We have three of these non-square matrix lists: bear_white_fur, bear_black_fur, and bear_face.
# We'll make new lists of vertices by applying the T matrix you've calculated.
reflected_bear_white_fur = T @ bear_white_fur
reflected_bear_black_fur = T @ bear_black_fur
reflected_bear_face = T @ bear_face

# This next line runs a code to set up the graphics environment.
ax = draw_mirror(bearBasis)

# We'll first plot Bear, his white fur, his black fur, and his face.
ax.fill(bear_white_fur[0], bear_white_fur[1], color=bear_white, zorder=1)
ax.fill(bear_black_fur[0], bear_black_fur[1], color=bear_black, zorder=2)
ax.plot(bear_face[0], bear_face[1], color=bear_white, zorder=3)

# Next we'll plot Bear's reflection.
ax.fill(reflected_bear_white_fur[0], reflected_bear_white_fur[1], color=bear_white, zorder=1)
ax.fill(reflected_bear_black_fur[0], reflected_bear_black_fur[1], color=bear_black, zorder=2)
ax.plot(reflected_bear_face[0], reflected_bear_face[1], color=bear_white, zorder=3);
```



List here the various tasks/jobs you have joined (with a brief description of the gained experience)

- Over the 1 week duration of the course I had to solve a total of 3 quizzes and passing them was necessary for getting the certificate
- 4 programming assignments which had the projects mentioned above, I had to pass them to finish the course
- 4 optional practice problems
- Pop up questions during the videos to make sure I am following the instructor

- ✓ Identifying special matrices
Graded Programming Assignment • 30 min • Grade: 100%
- ✓ Gram-Schmidt Process
Graded Programming Assignment • 30 min • Grade: 100%
- ✓ Reflecting Bear
Graded Programming Assignment • 3h • Grade: 100%
- ✓ Page Rank
Graded Programming Assignment • 30 min • Grade: 100%

- ✓ Vector operations assessment
Graded Quiz • 5 questions • Grade: 100%

2. Student Self-Evaluation

To be completed by the student

Directions: objectively he/she evaluates his/her performance using the scale shown below:

E = Excellent (5) - A= Above Average (4) - S= Satisfactory (3) - N= Needs Improvement (2)

U = Unsatisfactory (1) - N/A= Not Applicable (0)

Performance Item	Rating	Comments, examples
Work experience		
Relationship to career goals	5	
Training quality	5	
Training supervision	4	
Level of assigned responsibilities	4	
Learning experience		
Acquired knowledge, Skills or techniques	5	
Relationship between academia and profession	5	
Interpersonal & intrapersonal skills		
Change in interpersonal skills (communication, emotional intelligence, teamwork, negotiation, conflict resolution, problem solving and decision making.	5	
Change in intrapersonal skills (analytical Thinking, delegation, productivity, resilience, resourcefulness, strategic thinking, and vision)	5	
OVERALL PERFORMANCE RATING (40)	38	

Student Signature

Mustafa Sayed Al-Said