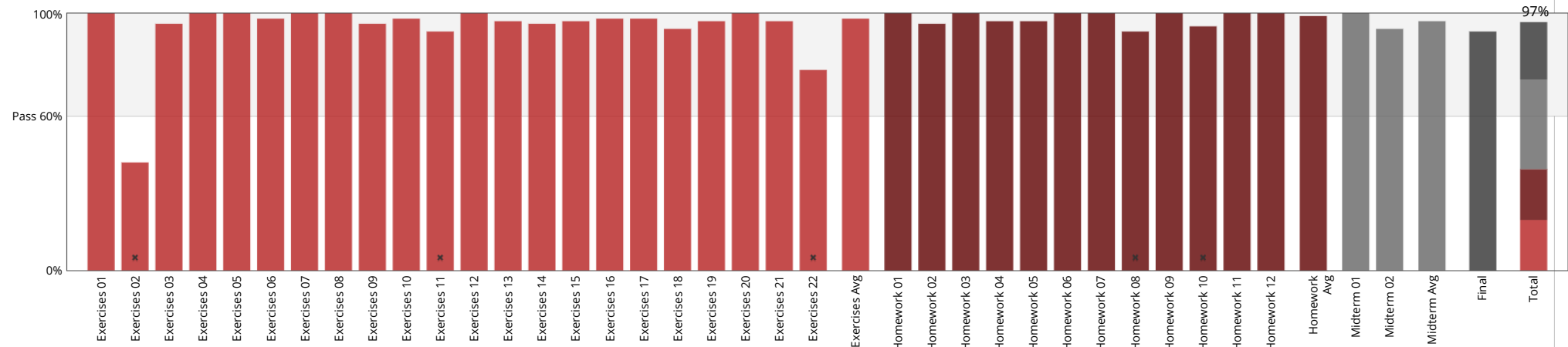## Course Progress for 'sandipan_dey' (sandipan.dey@gmail.com)

Your certificate is available   View Certificate
You've earned a certificate for this course.

Unit 0. Course Overview,
Syllabus, Guidelines, and
Homework on Prerequisites

Course overview

No problem scores in this section

edX Tutorial

No problem scores in this section

Discussion forum and collaboration guidelines

No problem scores in this section

Homework mechanics and standard notation

Practice Scores: 0/0   0/0   0/0   0/0   0/0   0/0   0/0

Micromasters, Certification, and Honor Pledge

Practice Scores: 0/0

Homework 0: Probability and Linear algebra Review (65/65) 100%

Homework *due Sep 13, 2019 05:29 IST*

Problem Scores: 1/1   3/3   3/3   1/1   2/2   5/5   4/4   2/2   4/4   3/3   1/1   2/2   3/3   1/1   2/2   4/4
1/1   6/6   1/1   4/4   2/2   3/3   5/5   2/2   0/0   0/0   0/0   0/0   0/0   0/0

Unit 1 Introduction to statistics

Lecture 1: What is statistics (15/15) 100%

Exercises *due Sep 13, 2019 05:29 IST*

Problem Scores: 1/1   2/2   2/2   2/2   1/1   1/1   1/1   2/2   1/1   1/1   0/0   1/1

Lecture 2: Probability Redux (14/33) 42%

Exercises *due Sep 13, 2019 05:29 IST*

Problem Scores: 3/3   1/1   0/1   4/4   2/2   0/1   0/1   0/1   0/1   0/1   0/1   0/1   0/2   0/4   0/3   0/1
3/4   1/1

Entrance Survey

Entrance survey

No problem scores in this section

Unit 2 Foundation of Inference

Lecture 3: Parametric Statistical Models (23/24) 96%

Exercises *due Sep 20, 2019 05:29 IST*

Problem Scores: 1/1   1/1   1/1   1/1   2/2   4/4   1/1   0/0   2/2   1/1   1/1   1/2   2/2   1/1   1/1   1/1
1/1   1/1

Lecture 4: Parametric Estimation and Confidence Intervals (26/26) 100%

Exercises *due Sep 20, 2019 05:29 IST*

Problem Scores: 1/1   1/1   1/1   1/1   1/1   0/0   1/1   1/1   1/1   1/1   1/1   1/1   4/4   1/1   2/2   2/2
3/3   3/3

Recitation 1. Confidence Intervals of the mean of Gaussian random variables

No problem scores in this section

Homework 1: Estimation, Confidence Interval, Modes of Convergence (43/45) 96%

Homework *due Sep 20, 2019 05:29 IST*

Problem Scores: 4/4 3/4 2/2 2/2 0/0 1/1 1/1 2/2 2/3 2/2 1/1 2/2 1/1 2/2 2/2 2/2
1/1 4/4 3/3 3/3 2/2 1/1

Recitation 2. Modes of Convergence

No problem scores in this section

Lecture 5: Delta Method and Confidence Intervals (33/33) 100%

Exercises *due Sep 26, 2019 05:29 IST*

Problem Scores: 1/1 1/1 1/1 1/1 2/2 3/3 2/2 4/4 1/1 3/3 1/1 1/1 1/1 1/1 1/1 6/6
1/1 1/1 1/1

Recitation 3: Confidence Intervals of the shift of shifted exponential random variables

No problem scores in this section

Homework 2: Statistical Models, Estimation, and Confidence Intervals (26/26) 100%

Homework *due Sep 26, 2019 05:29 IST*

Problem Scores: 1/1 2/2 2/2 2/2 2/2 0/0 2/2 3/3 0/0 3/3 1/1 1/1 3/3 4/4

Lecture 6: Introduction to Hypothesis Testing, and Type 1 and Type 2 Errors (50/51) 98%

Exercises *due Oct 4, 2019 05:29 IST*

Problem Scores: 1/1 2/2 2/2 2/2 1/1 1/1 1/1 1/1 1/1 0/0 1/1 1/1 1/1 1/1 3/3 3/3
1/1 1/1 1/1 1/1 1/1 1/1 1/1 3/3 1/1 0/1 4/4 3/3 1/1 1/1 3/3 1/1 1/1 2/2
1/1

Lecture 7: Hypothesis Testing (Continued): Levels and P-values (38/38) 100%

Exercises *due Oct 4, 2019 05:29 IST*

Problem Scores: 1/1 1/1 5/5 2/2 1/1 1/1 4/4 2/2 2/2 3/3 1/1 3/3 3/3 1/1 1/1 1/1
4/4 1/1 1/1

Recitation 4: Introduction to Hypothesis Testing

No problem scores in this section

Homework 3: Introduction to Hypothesis Testing (37/38) 97%

Homework *due Oct 4, 2019 05:29 IST*

Problem Scores: 1/2 1/1 1/1 3/3 2/2 1/1 2/2 2/2 2/2 1/1 1/1 1/1 3/3 1/1 3/3 1/1
4/4 1/1 2/2 2/2 2/2

Unit 3 Methods of Estimation

Lecture 8: Distance measures between distributions (41/41) 100%

Exercises *due Oct 11, 2019 05:29 IST*

Problem Scores: 1/1 1/1 1/1 4/4 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 3/3
2/2 1/1 1/1 2/2 1/1 1/1 1/1 3/3 1/1 1/1 2/2 3/3 1/1

Recitation 5: Distance measures between distributions

No problem scores in this section

Lecture 9: Introduction to Maximum Likelihood Estimation (45/47) 96%

Exercises *due Oct 11, 2019 05:29 IST*

Problem Scores: 2/2 3/3 1/1 0/1 1/1 4/4 4/4 1/1 1/1 1/1 3/3 3/3 4/4 0/0 2/2 0/1
1/1 3/3 5/5 3/3 3/3

Homework 4: TV distance, KL-Divergence, and Introduction to MLE (28/29) 97%

Homework *due Oct 11, 2019 05:29 IST*

Problem Scores: 1/1 1/1 2/2 1/1 3/3 2/2 1/1 1/1 1/1 2/3 2/2 1/1 3/3 4/4 1/1 1/1
1/1

Lecture 10: Consistency of MLE, Covariance Matrices, and Multivariate Statistics (40/41) 98%

Exercises *due Oct 18, 2019 05:29 IST*

Problem Scores: 1/1 1/1 1/1 1/1 1/1 2/2 0/1 1/1 1/1 3/3 1/1 2/2 4/4 4/4 4/4 1/1
1/1 4/4 1/1 1/1 0/0 1/1 4/4

Recitation 6: Maximum Likelihood Estimation: Inference for the variance of a Gaussian distribution

No problem scores in this section

Homework 5: Maximum Likelihood Estimation (19/19) 100%

Homework *due Oct 18, 2019 05:29 IST*

Problem Scores: 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 2/2 2/2 1/1 4/4

Lecture 11: Fisher Information, Asymptotic Normality of MLE; Method of Moments (41/44) 93%

Exercises *due Oct 25, 2019 17:29 IST*

Problem Scores: 3/3 0/2 1/1 2/2 1/1 1/1 0/1 1/1 4/4 1/1 1/1 1/1 1/1 1/1 2/2 3/3
2/2 2/2 3/3 2/2 1/1 2/2 2/2 1/1 1/1 1/1 1/1

Recitation 7: Maximum Likelihood Estimator for Multinomial

No problem scores in this section

Lecture 12: M-Estimation (47/47) 100%

Exercises *due Oct 25, 2019 17:29 IST*

Problem Scores: 1/1 1/1 3/3 7/7 1/1 1/1 3/3 4/4 2/2 1/1 3/3 1/1 3/3 4/4 2/2 1/1
2/2 1/1 2/2 1/1 1/1 1/1 1/1

Homework 6: Maximum Likelihood Estimation and Method of Moments (54/54) 100%

Homework *due Oct 25, 2019 17:29 IST*

Problem Scores: 3/3 3/3 3/3 3/3 7/7 6/6 1/1 1/1 1/1 2/2 2/2 3/3 1/1 2/2 1/1 2/2
1/1 1/1 1/1 1/1 1/1 2/2 1/1 1/1 1/1 1/1 1/1

Recitation 8: M-Estimation

Recitation 8: M-Estimation

No problem scores in this section

Recitation 9: (Review) Mean Squared Error

No problem scores in this section

Recitation 10: (Review) Multivariate Gaussian

No problem scores in this section

Recitation 11: (Review) Method of Moments

No problem scores in this section

Midterm Exam 1

Midterm Exam 1 (29.5/29.5) 100%

Midterm *due Oct 30, 2019 05:29 IST*

Problem Scores: 5/5 1.5/1.5 1/1 2/2 3/3 1/1 3/3 2/2 1/1 2/2 1/1 2/2 1/1 3/3 1/1

Unit 4 Hypothesis testing

Lecture 13: Chi Squared Distribution, T-Test (28/29) 97%

Exercises *due Nov 7, 2019 05:29 IST*

Problem Scores: 1/1 2/2 2/2 0/1 1/1 1/1 1/1 3/3 1/1 2/2 3/3 4/4 1/1 2/2 3/3 1/1

Recitation 12: Review: Comparisons of two Proportions

No problem scores in this section

Recitation 13: T-test

No problem scores in this section

Lecture 14: Wald's Test, Likelihood Ratio Test, and Implicit Hypothesis Test (27/28) 96%

Exercises *due Nov 7, 2019 05:29 IST*

Problem Scores: 1/1 0/0 1/1 4/4 1/1 2/2 1/1 1/1 1/1 2/3 3/3 2/2 1/1 1/1 1/1 1/1 2/2 2/2

Recitation 14: Wald's test and Likelihood Ratio Test

No problem scores in this section

Homework 7 (27/29) 93%

Homework *due Nov 7, 2019 05:29 IST*

Problem Scores: 1/1 1/1 0/1 1/1 4/4 2/2 1/1 1/1 2/2 1/1 2/2 2/2 1/1 1/2 2/2 1/1 1/1 2/2 1/1

Lecture 15: Goodness of Fit Test for Discrete Distributions (29/30) 97%

Exercises *due Nov 14, 2019 05:29 IST*

Problem Scores: 0/1 1/1 3/3 1/1 2/2 3/3 3/3 1/1 2/2 1/1 1/1 1/1 1/1 1/1 1/1 2/2 1/1 1/1 3/3

Recitation 15: Chi Squared Goodness of Fit Test

No problem scores in this section

Lecture 16: Goodness of Fit Tests Continued: Kolmogorov-Smirnov test, Kolmogorov-Lilliefors test, Quantile-Quantile Plots (41/42) 98%

Exercises due Nov 14, 2019 05:29 IST

Problem Scores: 3/3 1/1 1/1 5/5 3/3 2/2 3/3 1/1 1/1 1/1 3/3 2/2 1/1 1/1 2/2 1/1
1/1 0/1 1/1 1/1 2/2 1/1 4/4

Recitation 16: Sample Kolmogorov-Smirnov test

No problem scores in this section

Homework 8 (23/23) 100%

Homework due Nov 14, 2019 05:29 IST

Problem Scores: 3/3 1/1 1/1 3/3 1/1 2/2 2/2 2/2 1/1 1/1 1/1 1/1 1/1 3/3

Recitation 17: (Review) Hypothesis Testing Example with a Uniform Distribution

No problem scores in this section

Recitation 18: (Review) Which Theta in Wald's test

No problem scores in this section

Recitation 19: (Review) T test

No problem scores in this section

Unit 5 Bayesian statistics

Lecture 17: Introduction to Bayesian Statistics (55/56) 98%

Exercises *due Nov 21, 2019 05:29 IST*

Problem Scores: 1/1 1/1 0/1 5/5 7/7 1/1 1/1 1/1 3/3 2/2 1/1 1/1 6/6 9/9 2/2 1/1
1/1 4/4 2/2 1/1 1/1 1/1 3/3

Recitation 20: Calculating Bayes Posteriors

No problem scores in this section

Lecture 18: Jeffreys Prior and Bayesian Confidence Interval (31/33) 94%

Exercises *due Nov 21, 2019 05:29 IST*

Problem Scores: 1/1 0/0 1/1 1/1 2/2 1/1 1/1 2/2 1/1 0/1 2/2 3/3 1/1 3/3 1/1 1/1
1/1 4/4 4/4 1/2

Recitation 21: Multinomial Bayesian Estimation

No problem scores in this section

Recitation 22: Jeffreys Prior

No problem scores in this section

Homework 9: Bayesian Statistics (42/44) 95%

Homework *due Nov 21, 2019 05:29 IST*

Problem Scores: 3/3 4/4 3/3 1/1 2/2 4/4 2/2 2/2 2/2 2/2 0/1 0/1 1/1 2/2 2/2 0/0
3/3 3/3 3/3 3/3

(Optional) Recitation: Jeffreys Prior in Higher Dimension

No problem scores in this section

Midterm Exam 2

Midterm Exam 2 (35.7/38) 94%

Midterm *due Nov 28, 2019 05:29 IST*

Problem Scores: 2/2 1/1 1/1 1/1 2/2 0.67/1 1/1 2/2 1/2 2/2 1/1 1/1 2/2 3/3 5/5
0/1 1/1 1/1 3/3 2/2 1/1 2/2

Unit 6 Linear Regression

Lecture 19: Linear Regression 1 (28/29) 97%

Exercises *due Dec 12, 2019 05:29 IST*

Problem Scores: 1/1   2/2   1/1   4/4   1/1   1/1   1/1   1/1   1/1   1/1   1/1   2/2   1/1   1/1   1/1   0/1   1/1   1/1   2/2   2/2   2/2

Lecture 20: Linear Regression 2 (40/40) 100%

Exercises *due Dec 12, 2019 05:29 IST*

Problem Scores: 2/2   3/3   5/5   2/2   1/1   6/6   1/1   1/1   1/1   1/1   1/1   3/3   1/1   3/3   1/1   2/2   1/1   1/1   2/2   1/1   1/1

Recitation 23: Hypothesis Test for Linear Regression

No problem scores in this section

Recitation 24: Multiple Hypothesis Testing and Bonferroni Correction

No problem scores in this section

Recitation 25: Ridge Regression

No problem scores in this section

Homework 10 Linear regression (25/25) 100%

Homework *due Dec 12, 2019 05:29 IST*

Problem Scores: 2/2   3/3   2/2   5/5   1/1   1/1   3/3   2/2   1/1   1/1   1/1   1/1   2/2

Unit 7 Generalized Linear Models

Lecture 21: Introduction to Generalized Linear Models; Exponential Families (37/38) 97%

Exercises *due Dec 19, 2019 05:29 IST*

Problem Scores: 2/3   1/1   1/1   1/1   1/1   2/2   4/4   4/4   1/1   4/4   3/3   1/1   3/3   1/1   2/2   4/4   2/2   0/0

Lecture 22: GLM: Link Functions and the Canonical Link Function (7/9) 78%

Exercises *due Dec 19, 2019 05:29 IST*

Problem Scores: 1/1   0/0   1/1   1/1   0/1   1/1   2/2   1/1   0/1

Recitation 26: Poisson and Gamma Generalized Linear Models

No problem scores in this section

Recitation 27: Hypothesis Test for Logistic regression

No problem scores in this section

Homework 11 (39/39) 100%

Homework *due Dec 19, 2019 05:29 IST*

Problem Scores: 5/5   2/2   3/3   1/1   5/5   2/2   3/3   1/1   3/3   3/3   5/5   2/2   2/2   2/2

| Final exam | **Final Exam** (40/43) 93% |
| | Final *due Dec 24, 2019 05:29 IST* |

Problem Scores: 1/1 2/2 1/1 1/1 1/1 1/1 2/2 1/1 2/2 1/1 2/2 0/1 2/2 2/2 2/4 2/2
2.5/2.5 0/0 0.5/0.5 2/2 2/2 2.5/2.5 1/1 1.5/1.5 2/2 1.5/1.5 1.5/1.5

(Optional) Unit 8 Principal component analysis

(Optional) Preparation Exercises for Principal Component Analysis (54/54) 100%

due Dec 24, 2019 05:29 IST

Practice Scores: 3/3 3/3 2/2 2/2 2/2 1/1 5/5 1/1 1/1 1/1 6/6 3/3 1/1 3/3 3/3 6/6
1/1 4/4 3/3 2/2 1/1

(Optional) Lecture 23: Principal Component Analysis (20/22) 91%

due Dec 24, 2019 05:29 IST

Practice Scores: 1/1 0/1 1/1 1/1 1/1 0/1 1/1 3/3 2/2 4/4 2/2 1/1 1/1 1/1 1/1

(Optional) Recitation 28: Principal Component Regression

No problem scores in this section

Until Next Time

Until Next Time

No problem scores in this section

Exit Survey

Exit survey

No problem scores in this section