COURSEWORK:

Data Science

1. Principles of Data Science (DSC 10) :

Grade Received: A
What I learnt : Developed my computational thinking abilities and introduced tools necessary to answer questions that arise from large-scale datasets. Introductory approach to data science\ which covered data processing, modelling, and analysis techniques.

2. Programming and Basic Data Structures for Data Science (DSC 20):

Grade Received: A-
What I learnt: Topics taught in python including recursion, higher-order functions, function composition, object-oriented programming, interpreters, classes and simple data structures such as arrays, lists and linked lists. Learnt a new coding language and managed to perform well.

3. Data Structures and Algorithms for Data Science (DSC 30):

Grade Received: A
What I learnt: Advanced programming techniques including encapsulation, abstract data types, interfaces, algorithms and complexity, and data structures such as stacks, queues, priority queues, heaps, linked lists, binary trees, binary search trees and hash tables. Coded in Java. Learnt how to code extensively under tight deadlines.

4. Theoretical Foundations of Data Science I (DSC 40A):

Grade Received: B+
What I learnt: Mathematical language for expressing data analysis problems and solution strategies, probabilistic reasoning, mathematical modeling of data, and algorithmic problem solving. Helped me strengthen my statistical knowledge and critical thinking abilities.

5. Theoretical Foundations of Data Science II (DSC 40B):

Grade Received: A
What I learnt: Fundamental topics in combinatorics, graph theory, probability, and continuous and discrete algorithms with applications to data analysis. Helped me in understanding how to make solutions time and memory efficient.

6. The Practice and Application of Data Science (DSC 80):

Grade Received: A-
What I learnt: Used python and pandas to learn the data science life-cycle and learn many of the fundamental principles and techniques of data science spanning algorithms, statistics, machine learning, natural language processing, visualization, and data systems. Learned tools like matplotlib, sci kit learn, and seaborn.

7. Introduction to Data Science (COGS 9):

Grade Received: A
What I learnt: Concepts of data and its role in science, the ideas behind data-mining, text-mining, machine learning, and graph theory and how scientists and companies are leveraging those methods to uncover new insights into human cognition.

8. Introduction to Data Management (DSC 100):

Grade not yet received
What I am learning: The course covers topics including the SQL data model and query language, relational data modeling and schema design, elements of cost-based query optimizations, relational data base architecture, and database-backed applications.

Mathematics

9. Calculus/Science & Engineering (MATH 20A, MATH 20B, MATH 20C):

Grade Received: A+, A+, A
What I learnt: Foundations of differential and integral calculus of one variable and multi-variable. Functions, graphs, continuity, limits, derivative, tangent line. Applications with algebraic, exponential, logarithmic, and trigonometric functions. Introduction to the integral.

10. Linear Algebra (MATH 18):

Grade Received: A+
What I learnt: Matrix algebra, Gaussian elimination, determinants. Linear and affine subspaces, bases of Euclidean spaces. Eigenvalues and eigenvectors, quadratic forms, orthogonal matrices, diagonalization of symmetric matrices. Applications. Computing symbolic and graphical solutions using MATLAB

11. Discrete Mathematics (CSE 20):

Grade Received: A
What I learnt: Basic discrete mathematical structures: sets, relations, functions, sequences, equivalence relations, partial orders, number systems. Methods of reasoning and proofs: prepositional logic, predicate logic, induction, recursion, pigeonhole principle. Infinite sets and diagonalization. Basic counting techniques; permutation and combinations. Applications to digital logic design, elementary number theory, design of programs, and proofs of program correctness. Helped me develop analytical and mathematical reasoning skills.

Economics

12. Principles of Microeconomics (ECON 1):

Grade Received: A
What I learnt: Introduced me to the study of the economic system. The standard economic models used to examine how individuals and firms make decisions in perfectly competitive markets, and how these decisions affect supply and demand in output markets.

13. Principles of Macroeconomics (ECON 3):

Grade Received: A
What I learnt: Introductory macroeconomics: unemployment, inflation, business cycles, monetary and fiscal policy. Understood the applications of economics in the real world.

14. Game Theory (ECON 109):

Grade not yet received
What I am learning: Introduction to game theory. Analysis of people's decisions when the consequences of the decisions depend on what other people do. This course features applications in economics, political science, and law. Helping me strengthen my quick learning and analyzing situations' skill.

15. Econometrics A (ECON 120A):

Grade not yet received
What I am learning: Probability and statistics used in economics. Probability and sampling theory, statistical inference, and use of spreadsheets.

English:

16. Making of the modern World series (MMW 11, 12, 13, 14, 15):

Grades Received: A-, A, A-, A, B+

What I learnt: MMW 11 explored human origins, the development of early forms of social and political organization, the strategies that early societies used to negotiate their physical and social environments, and the appearance of influential cultural traditions across the ancient world (to ca. 100 BCE). Wrote 4 critical analysis essays. MMW 12 provided a global perspective on the past, examining the emergence of inter-regional networks and empires and their relationship with the advent and expansion of diverse religious movements. Learnt how to extensively research, write research papers, and pose level 3 questions. MMW 13 presented a global perspective on the connections, exchanges, and transformations that linked Afro-Eurasia and the Americas during the period from 1200 to 1750 CE. MMW 14 explores divergent paths to modernity between the mid-eighteenth century and World War I. MMW 15 explores the cultural, economic, political, and social forces that shaped the 20th and 21st century and contestations over them. This sequence helped me understand what really shaped the modern world and thoroughly helped me in my writing and research abilities.

17. Race and Racism (ANTH 21):

Grade Received: A
What I learnt: With insights from the biology of human variation, archaeology, colonial history, and socio-cultural anthropology, learnt to examine how notions of race and ethnicity structure contemporary societies.

Other courses taken for interest:

18. The Periodic Table (CHEM 11):

Grade Received: A
What I learnt: Introduced to the material world of atoms and small inorganic molecules.

19. Mechanics (PHYS 2A):

Grade not received
What I am learning: Vectors, motion in one and two dimensions, Newton's first and second laws, work and energy, conservation of energy, linear momentum, collisions, rotational kinematics, rotational dynamics, equilibrium of rigid bodies oscillations, gravitation.

EXPERIENCE:

Data Intern @ Phrens

I was responsible for collecting, organizing, and analysing data on competitors in the same industry using MS Excel, discussing the insights gathered from the data in weekly company meetings, and incorporating constructive feedback from the board of directors into further developing my analysis. I also created visual dashboards for easier data digestion and understanding. My role helped my colleagues in gathering structured and important information about other firms, which they could subsequently use to gain competitive advantage. It also aided in understanding variables such as the competition the start-up would face, the investors it should pursue, and so on. This internship inspired me to learn about the numerous uses of data science and how it can play a significant part in the development of a new firm and help it grow fast and compete against other firms through strong meaningful data driven insights.

Data and Marketing Intern @ Amul Kandy Floss

When I originally applied for the internship, Amul KandyFloss was a new brand for Kidswear in India. My main role was to help the marketing team promote the business on social media and generate greater awareness amongst younger parents. I brainstormed strategies with 2 other interns. I was also responsible for generating unique content for Instagram using Canva and Illustrator and also helped setup digital ads for the brand. I was able to boost the followers and viewership by 40% during my stint here. This helped the company attract a large number of followers and increased online sales on sites such as Amazon and FirstCry, which were also initiated by me. In addition, I was in charge of utilizing Excel and Tableau to measure the performance of our social media campaigns. I also helped in calculating an efficient budget for marketing and advertising which helped the spending to be cut down by 6%. Overall, this internship aided me in developing my social media marketing skills and understand in detail how to set-up sales online on third party websites. The experience allowed me to not just apply my technical skills but also grow and enhance my soft skills in workplace communication, team work, and time management. It made me realise that I thrive under pressure - I was able to efficiently deliver insights within tight timelines for my manager to make fast paced decisions.

Outreach Chair @ UCSD Data Science Society

I am a working Outreach Chair at UCSD Data Science Society. To me, Data Science is not just academics and profession, it is my passion. Therefore, at DSS, I generate awareness about data science and its applications, connect with different data science centered organizations and universities, work alongside the workshop committee to conduct workshops in the field of machine learning, business analytics, and other relevant fields.

“Girl Power” movement in Kolkata, India:

Moto and introduction:

Hosted a “Girl Power” Movement which empowered young underprivileged girls to expand their horizon and step into the technical field. Here in West Bengal, computer science, mathematics, and similar academic fields are stigmas for girls. My main aim was to help break the sigma and give each of them an equal opportunity to know that they can do it too. With a team of 20 other people, we managed to kick start this initiative.

What we did:

1. We collected the e-waste from our relatives, friends, and acquaintances and donated it to Yeh Mera India, the organization which connected us to the girls. We managed to get 1 gadget per 7 girls.
2. We taught them how to use laptops, tablets, and computers. This allowed them to practically use some technology.
3. Taught them to write emails, search on google, make presentations and word documents, click photographs, read e-books, and learn other topics through YouTube. Most importantly, we taught them the usage and the correct application of Internet.
4. We also encouraged them to help each other on this journey as working as a team does wonders.

End Results:

Even though the movement was small and taught the very basics of computer science, it was crucial to their education. It established a facet to unlimited knowledge and possibilities. We managed to reach over 80 girls and help them explore the world through screens.