Paridhi Agarwal

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EXPERIENCE

Durham University, Durham — *Demonstrator*

OCTOBER 2021 - PRESENT

Algorithms and Data Structures demonstrator to help L1 students with technical problems in their practical work and problem solving

Xero Apps Pvt Ltd, Udaipur — *App Developer Intern*

August 2021 - September 2021

Worked at a startup to make an inventory & billing app using Flutter and Firebase, learned about databases for inventory management.

Anthias Biopharma Private Limited, Mumbai — *Web Developer Intern*

June 2021 - July 2021

Website development using Shopify and ensuring performance and functionality of online store for a herbal product.

EDUCATION

Durham University, Durham — *BSc Computer Science*

SEPTEMBER 2019 - JUNE 2022

Extra-curriculars: President of Yoga Society, Vice President of Indian Society, Squash Team, Pool Team, Member of Dance Troupe

Wynberg Allen, Mussoorie — *ISC A**

July 2017 - April 2019

Subjects: Computer Science 95%, English Language 94%, Mathematics 87%, Physics 84%

Extra-curriculars: House Vice Captain, Swimming Team Vice Captain, Elocutionist, Marathon runner

SKILLS

Teamwork

Punctuality

Ability to teach and mentor

Hardworking

Problem-Solving

LANGUAGES

English

Hindi

French

PROGRAMMING LANGUAGES

Python

C/ C++

Java

HTM

JavaScript

Assembly(MIPS)

Haskell

COURSEWORK

Machine Learning- Using epidemiological data from the COVID- 19 outbreak, built and trained 3 machine learning models to predict whether a person is dead or alive in Python.

Bias in AI- Built a logistic regression model using the adult Income dataset to predict whether an individual makes more or less than $50k per year. Then implemented a preprocessing technique called disparate impact removal to remove racial bias.

AI search- Using python, implemented basic greedy search and ant-colony optimisation algorithms along with 2-opt and 3-opt for enhancement to solve the Travelling Salesman Problem.

Data collection and mining- Using python, investigated distances between any 10 keywords by collecting the data from BBC news, processing and analysing it

Algorithms and Data Structures- Used Python to create double and quartic hashing programs, finding the longest palindrome and recreating the quicksort algorithm to have multiple pivots.

Networks- Using python, created a client-server system, which implements an instant messenger using TCP

Security- Identifying security vulnerabilities that are present in a server belonging to a startup company with explanations on how these vulnerabilities may be exploited and removed.

Image processing- Using python, implemented different filters to perform image transformations.

Computer Systems- Used LMC to write assembly code for the computation of a function and return output depending upon the input number.

Bioinformatics- Used Python to generate matching DNA sequences for a multiple DNA input

Error-Correcting codes- Used Python to encode and decode hamming codes

Modelling with graphs- Used Python to create programs for graph traversing.

Systems Programming- Implemented connect 4 Twist & Turn game in C, with functionalities like token drop down by gravity and cylindrical rotation of tokens.

Programming- Used Javascript, HTML, CSS to create a single page web app that consisted of a travel map where users could log in and put flags on the map to keep track of all the places they have visited round the globe.

Software Engineering GROUP PROJECT- Implemented a graph algorithm website that allows users to select various combinations of graphs and algorithms and produces visualisations of the output.

HACKATHONS

HackNotts 2019: Build a chat application using Django.

DurHack 2019: Created an app using Express that allows users to check availability and book parkings at the colleges in Durham University.

DurHack 2020: Created an education app using flask to improve online learning for students. Each student has a pet and must watch their lectures in time to keep their pet happy.