Aditi Chauhan

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Education

University of Washington — Seattle, WA
Bachelor's in Applied Physics (Honors) and Astronomy, Minor in Data Science — *Aug. 2017 – Jun. 2021*

Coursework

Data Structures and Algorithms, Web Programming, Scientific Computing, Database Management, Machine Learning, Artificial Intelligence, Statistics, Prototyping, Usability Testing, Solidworks

Experience

Incoming Computational Imaging Software Intern — Aug. 2021 - Dec. 2021
Pathware Inc. — *Seattle, WA*
- Design and develop software for assigned project, as well as provide documentation.

Undergraduate Research Assistant — Jan. 2020 – Present
UW Elementary Particle Experiment Group | ***Python, PyTorch, Tensorflow*** — *Seattle, WA*
- Analyzed performance of LHC particle tracking pipeline against systematic effects to prepare it for production.
- Introduced noise in data proving decrease in efficiency by 1.6% and purity by 5.4% on addition of 20% noise.
- Misaligned data and observed a trivial impact of 0.1% on efficiency, in-depth studies required.
- Results presented in the Conference for Undergraduate Women in Physics 2021, UW Undergraduate Research Symposium 2021, Co-authored paper **arXiv:2103.06995**

Bootcamp Intern II — Oct. 2020 – Jun. 2021
Gesture @ C21 — *Seattle, WA*
- Developed on-boarding experience/resources for and mentored ∼5 new interns.
- Implemented data storage and workflow tracking infrastructure increasing efficiency of team tasks.
- Supported Managers throughout the program by conducting recruitment and managing participants.
- Trained in developing a mission mindset, professional work ethics and communication skills.

Undergraduate Grader — Oct. 2020 – Jun. 2021
UW Astronomy Department — *Seattle, WA*
- Grader for ASTR 101 - introductory astronomy and ASTR 324 - Machine Learning for Astronomy.
- Graded quizzes for 50+ students, brainstormed grading techniques to avoid bias and attended weekly meetings.
- Reviewed student answers and provided them guidance on errors/debugging.

Projects

MathRead | ***DubHacks 2019, Google APIs, Java*** — Oct. 2019
- Designed app for blind people to convert math equations in images to speech.
- Programmed the extraction of text from images using Google Vision API.
- Converted the text to speech and read it out loud using Google Text-to-speech.
- Successfully converted simple algebraic equation with the help of openCV library.

Search Engine | ***DS&Algos, Java*** — May. 2019
- Sorted data and incoming links to web-pages in directory using heaps.
- Implemented TF-IDF ranking infrastructure using sets, dictionaries to handle calculations for web-pages.
- Determined quality or rank of web-page using inbound links by modelling them as graphs.
- Combined the above to build a functioning search engine that displays highest ranked web-page first.

Flight Statistics | ***Spark SQL, AWS, Java, Parallel Data Processing*** — Mar. 2019
- Extracted data from the US Bureau of Transportation Statistics by executing queries in Spark SQL/APIs.
- Deployed jobs on AWS using Elastic Map Reduce to analyze large dataset in parallel.
- Executed flight path and destination queries with results returned as a JavaRDD.

Flight Booking Service | ***Java, SQL, Azure, Transaction Management*** — Feb. 2018
- Deployed SQL from within Java to create database application for flight booking.
- Developed physical schema design to track reservations, itineraries and users.
- Ensured consistent state of database by setting isolation levels and handling exceptions.