

# APAR POKHREL

Grand Prairie, Texas

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## Education

### The University of Texas at Arlington

Bachelor of Science in Computer Science  
Minor in Mathematics

May 2022

CGPA: 3.81/4.0

## Technical Skills

**Programming Languages:** C/C++ (3.5+ years), Python (2+ years), JavaScript, Java, Matlab, MySQL(<2 years)

**Tools:** VS Code, GitHub, Git, L<sup>A</sup>T<sub>E</sub>X, Google Colab, Jupyter, Eclipse, Arduino, gcc

**Technologies/Frameworks:** Windows, Linux, MacOS, ReactJS, TensorFlow, Keras, Pandas

## Experience

### Peer Academic Leader

August 2021 – May 2022

University of Texas at Arlington

Arlington, Texas

- Supervised and instructed UNIV freshmen courses (Fall 2021 & Spring 2022) under the Office of New Student Courses.
- Individualized lesson plans for a class size of 33 students on academic and student affairs policy, social opportunities, major exploration, engineering practices, critical thinking skills, and other areas of academic and student success.
- Maintained official university course records, documented student progress, accomplished varied clerical tasks, and performed other duties as required.

## Projects

### Your Disney Movie Dataset | Python, Goggle Colab

May 2022

- Utilized web scraping to extract Wikipedia's Infobox contents from Disney movies using the BeautifulSoup library.
- Cleaned and filtered data to create a final dataset which houses 520 Disney movies and generated GET requests to attach IMDB/Rotten Tomatoes ratings using OMDb API.

### The Drowning Robots | C/C++, Python, ReactJS

August 2021 - April 2022

- Represented UTA for the IEEE Region 5 Student Robotics Competition.
- Collaborated on designs and build for an underwater ROV capable of performing dive, submerge, and travel maneuvers underwater with varied level of autonomy.
- Designed a User Interface for the ROV that utilizes a HTTP server/client for mechanical controls and wireless video streaming, and integrated Axios API to send HTTP messages for serial communication.

### Traffic Signs Classification and Recognition | Python, Keras, Tensorflow

August 2021 - December 2021

- Built a deep neural network that can classify traffic signs from the GTSRB public dataset.
- Classified images into relevant classes using a LeNet CNN model with a training accuracy of 98 % .
- Designed a simple GUI for the image classifier to allow users to upload an image and predict the class and traffic sign.

### Pokédex | Javascript, Rest API

March 2021

- Created a light-weight web application hosted on *Netlify* and improved User Interface using style sheets.
- Generated GET requests and filtered JSON strings to create a catalog of 897 Pokémon based on their ID and attributes using PokéAPI .

### Operating Systems | C/C++

August 2020 - December 2020

- Implemented a user space shell application capable of interpreting a FAT32 file system image based on FAT32 File System Specification without the use of any existing kernel code or utility functions.
- Designed a program with self-implemented data structures for dynamic memory allocation functions capable of performing heap management using page replacement algorithms.
- Designed a bash shell for UNIX using low level system calls to create and manage processes supporting user commands.
- Modified and re-built a CentOS Linux kernel to support new system calls with added functionality of process metrics.

### Poker++ | C++, gtkmm

January 2020 - May 2020

- Designed a gtkmm application that allows a multi-player Texas Hold 'em poker game using low-level I/O programming.
- Implemented a client-server architecture model for the dealer and client(s) using the Boost ASIO library and encoded communication on a JSON interface.