Apar Pokhrel

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Education

The University of Texas at Arlington **May 2022**
Bachelor of Science in Computer Science *CGPA: 3.81/4.0*
Minor in Mathematics

Technical Skills

Languages: C/C++ (**3.5+ years**), Python (**2+ years**), JavaScript, HTML/CSS, Java, Matlab, MySQL (**2 years**)
Tools: VS Code, GitHub, Git, LaTeX, Google Colab, Jupyter, Eclipse, Arduino, gcc/gdb
Technologies/Frameworks: Windows, Linux, MacOS, ReactJS, NodeJS, 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 an average class size of 30 students on academic and student affairs policy, social opportunities, major exploration, engineering practices, critical thinking skills, and other areas of academic 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.

Awards and Achievements

Engineering: College of Engineering, Dean's List all semesters
Academic: *Summa Cum Laude*, Maverick Academic Scholar
Affiliations: IEEE Student