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+ years**), Python (**2+ years**), JavaScript, HTML/CSS, Java, Matlab, MySQL (<**2 years**)
Tools: VS Code, GitHub, Git, LaTeX, Google Colab, Jupyter, Arduino, Virtual Box, gcc/gdb
Technologies/Frameworks: Windows, Linux, MacOS, ReactJS, NodeJS, TensorFlow, Keras, NumPy, Sklearn, Pandas

Experience

Senior Design Software Developer **August 2021 – May 2022**
University of Texas at Arlington *Arlington, Texas*

- Collaborated on designs and build for an underwater ROV with a $800 budget for the IEEE Robotics Competition.
- Gained Agile SDLC methodology experience through daily scrum meetings, project planning, requirements elicitation, sprint backlog, and peer review and testing.
- Designed a ReactJS web application that serves a a controller by interacting with a HTTP server for relaying requests for mechanical controls and wireless video streaming integrated with Axios API for serial communication.

Peer Academic Leader **August 2021 – May 2022**
Division of Student Success, University of Texas at Arlington *Arlington, Texas*

- Supervised and instructed three UNIV freshmen courses for the College of Engineering and Science.
- Individualized lesson plans for an average class size of 30 students on academic and student affairs policy, social opportunities, major exploration, engineering practices, and other areas of academic success.
- Maintained official university course records and documented student progress of 100+ students using Canvas LMS.

Projects

Your Disney Movie Dataset | *Python, Goggle Colab, BeautifulSoup* **May 2022**

- Utilized web scraping to extract Wikipedia's Infobox contents from 600+ Disney movies using the bs4 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.

Traffic Signs Classification and Recognition | *Python, Keras, Tensorflow* **August 2021 - December 2021**

- Trained a deep neural network that can classify traffic signs from the GTSRB dataset having 50,000 images.
- Classified images into 43 relevant classes using a LeNet CNN model with a training accuracy of 98 % .
- Created a simple GUI using Tkinter that predicts the class of traffic sign based on a user image.

Pokédex | *Javascript, Rest API* **March 2021**

- Deployed a light-weight web application 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 4 page replacement algorithms.
- Designed a bash shell for UNIX using low level system calls to create and manage processes supporting user commands.
- Modified a CentOS Linux kernel to support 3 new system calls with added functionality of process metrics.

Poker++ | *C++, gtkmm* **January 2020 - May 2020**

- Developed a multi-player (2-5) gtkmm Texas Hold 'em poker game using low-level I/O programming.
- Integrated 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 Scholarship
Affiliations: IEEE Student