ARNALDO J. TORRES

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Summary of Skills

Languages: C, C++, C#, Javascript,, Java, Typescript, SQL, Python3, HTML, CSS,
Software: ReactJs, NodeJS, NextJs, .NET, Unity, Visual Studio, Android Studio, Apache Netbeans, Eclipse, Joomla
Version Control: GitHub, Plastic SCM, Subversion

Professional Experience

Pituitary Network Association Web Development & Design July 2022 - Current

A part time position enhancing PNA's website pituitary.org, and its satellite websites. My job responsibilities include the website's design and refactoring, and the deployment of additional website content. I also created instruction manuals on how to interface with the website's back-end, and more importantly, on how to understand and interact with the various software modules and components.

Technologies used: Javascript, Adobe Photoshop, Adobe Illustrator

Wildlife & Environmental Conservation Education (WEC) Web & Graphic Design January 2018 - Current

A sub-contractor part time position at WEC, a non-profit that provides shelter and rehabilitation to endangered & exotic animals. I developed the company's website utilizing Joomla, CSS, and HTML. Additionally, I designed the logo, banners, flyers, calendars, web advertisements, and promotional videos used for fundraising events and social media.

Technologies used: HTML, CSS, Javascript, Adobe Illustrator, Adobe Photoshop

Havik Software Engineer February 2022 - July 2022

Short term contract with Havik, a company that develops VR military simulation software. Delivered redesign and refactor of the UI/UX for Havik's virtual reality military simulation, Joint Fires, built with the Unity Engine. This included implementing a new

user profile system, which included the user's AJACTS training status. I also implemented a post-simulation session review feature for the instructor and student, as well as creating all visual elements and UI layouts. These features were implemented using the MVC design pattern. Implemented a new UI layout and features for the Havik Voice application. These features include creating a dynamic visual waveform that displays when any user speaks. Other frontend features implemented include those commonly found in voice chat applications, such as, mute/unmute, volume control, channel selection, and connect/disconnect.

Technologies used: Unity, C#, Plastic SCM, Mixed Reality SDK, .NET, Visual Studio

Aerovironment Software Engineer June 2021 - February 2022

Aerovironment provides specialized drones for commercial and military application. I completed multiple development projects using C#, ReactJs, React Redux, XML, and VBA. I developed automated data collection of drone performance from Ground Control System for evaluation against Acceptance Test Procedures for Flight Test Engineers. I developed RF Radio Channel Selector to manage channel selection and utilization across multiple teams to allocate certain channels for the purpose of development and testing of military air vehicles. I refactored underperforming application used to evaluate hardware components such as Gimbals and Air vehicles PCBAs by refactoring Schema, increasing processing performance by 30%.

Technologies used: ReactJS, .NET Framework, C#, XML, Subversion

Personal Projects

Redis Server Database and Redis Client Application

Developed a Redis-like in-memory data store in modern C++ (C++17), featuring RESP protocol support for compatibility with redis-cli. Implemented core data structures (strings, lists, hashes) with thread-safe operations and periodic background persistence to a dump file. Designed a multithreaded TCP server supporting concurrent client connections and graceful shutdown with final state saving. Built a cross-platform Redis client capable of connecting to a Redis server over TCP, constructing RESP commands, and parsing server responses. Implemented portable socket handling for Windows (Winsock2) and Linux (POSIX), with a CLI scaffold ready for interactive command

execution. This project demonstrates utilization of systems programming, networking, multithreading, and protocol design skills.

Unix Shell in C

Developed a custom Unix-like shell in C with an interactive prompt, command parsing, and built-in commands (cd, pwd, echo, env, which, exit). Implemented input handling via getline(), tokenization with dynamic memory management, and clean resource deallocation each iteration. Added external command execution using PATH lookup to run common system utilities. Enhanced usability with error messages for invalid commands and improved built-in behavior. This project demonstrates utilization in low-level C programming, process control, and memory management.

Torres Shark (Network Packet Sniffer)

Developed a Windows-focused network packet sniffer with a Tkinter-based GUI for capturing and inspecting IPv4 traffic. Implemented raw socket capture with promiscuous mode, decoding of ICMP, TCP, and UDP protocols, and a thread-safe queue for smooth real-time packet updates in the UI. Designed a color-coded, filterable table for packet summaries and a details pane with parsed headers and payload previews. Added start/stop controls, error reporting, and one-click clearing to create a user-friendly experience. The project emphasizes network protocol parsing, concurrent programming, and GUI development in Python. Future iterations can extend functionality to IPv6 and Pcap export support.

“Proper Form” Mobile Application

Created a React Native Expo mobile application, Proper Form, that provides users with educational information on exercises, creates and stores routines, provides a nutrition journal, and community engagement around the user’s fitness progress and goals. Proper Form also incorporates social media with direct messaging features and friends list which can be used to compete on daily steps and exercise challenges. Proper Form is built using React Native, Google Firebase, and an API utilizing the .NET framework and Amazon AWS, including Amazon’s EC2 and RDS database services.

“What to Watch” Movie Search Application

Developed a React application for the browsing and searching of movies using NextJS and the Movie Database API. The purpose of the application is to allow users to search or discover movies to watch without the results being filtered by search

algorithms or region restrictions currently implemented in most streaming services. Furthermore, the application displays not just movies shown on one streaming service but all services to widen the scope and make it easier for users to find a movie to watch. The application features a UI/UX similar to Netflix, and offers a homepage that displays movies based on genre. The user can search by genre or name of movie and discover a library of films both domestic and international.

“Task Sultan” Jira-esque Application

A SaaS web-based application for teams and individuals to create, assign, and track tasks through customizable workflows, inspired by Jira but focused on simplicity and modern UX. Task Sultan’s front end is React (Typescript) and Material UI giving a scalable, responsive user interface. The backend is NodeJs with prisma with a REST API allowing for the creation, modification, and assignment of workspaces, projects, tasks, and subtasks.

“Ready for Life” Mobile Application

Ready for Life is a React Native mobile application designed to help users set goals, plan daily tasks, track food consumption, and log daily exercise. The application aims to empower users to lead healthier, more organized lives by providing an intuitive and integrated platform for personal development and wellness tracking. The front end of the website is React Native and incorporates Redux and React Navigation, among other packages and features to accomplish the goals of the application. The backend incorporates Google Firebase, including Firebase Authentication, Firestore, and Firebase realtime databases.

Education

California State University, Northridge 2021
Bachelor of Science - Computer Science
Moorpark College 2019
Associates of Science - Mathematics, Physics, Graphic Design, Astrophysics, Astronomy

Awards

Multicultural Day Graphic Design Award 2015
Graphic Design Scholarship Award 2015-2016