Jugal Chitkara

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EDUCATION

Computer Engineering BASc at University of Waterloo, Class of 2024
Relevant courses: Advanced Calculus 1 (Differential Equations), Algorithms and Data Structures (C++), Digital Systems (Assembly), Materials Chemistry, Economics, Numerical Methods (MATLAB)

SKILLS

Languages: HTML, JavaScript, Python, TypeScript, CSS, C++, C#
Frameworks/Databases: NodeJS, Angular, React, Bootstrap, TensorFlow, SQL, MongoDB, Redis
Tools/Tech: Git, VSCode, XCode, MSSQL Server, Linux (Ubuntu), Bash, Postman, MS Suite, vim, MATLAB

WORK EXPERIENCE

Superheat, Kincardine, Ontario (Remote)
Web Developer **Sept 2020 – Dec 2020**

- Altered communication streams to transfer temperature and system data from hardware through **NodeJS** webservers and **Redis** to fit specifications requested by the frontend development team.
- **Decreased turnover time from over a day to less than an hour** for delivering charts to the client upon project completion by automating data recovery method from proprietary hardware running C++ by modifying TCP Socket Communication, NodeJS Servers, and Redis communication.
- Modernized outdated, decade-old **HTML5 + jQuery** app used for rig control and site monitoring by recreating it with the **Angular 10** framework.

Superheat, Kincardine, Ontario
Web Developer **Jan 2020 – Apr 2020**

- Worked alongside 4 developers to create features for web application such as writing new views for new data and implementing video upload functionality.
- Maintained current industry standards by refactoring 15-20 modules into components and altered templates to convert and modernize web app from **AngularJS** to **Angular.**
- Updated Loopback **NodeJS** APIs and altered SQL models to securely fetch necessary data.
- Utilized **Bitbucket** for source control and **Jira** for task management in an **Agile** environment.

Framatome, Kincardine, Ontario
Engineering Coop Student **Feb 2019 – June 2019**

- Analyzed technical documents and design specifications for errors.
- Organized errors in MS Excel and presented findings to the manager.
- Introduced to **ASME** and **CSA** standards through analyzing documents to meet industry standards.

PROJECTS

PID Controlled Ball on Beam Balance

Arduino/C++

- Designed and implemented a system that uses PID control principles to balance a ball on a beam.
- Used ultrasonic sensor to find the ball on beam and used a servo motor to adjust the angle.
- Control system with tweaked parameters can be applied to other applications such as aircraft/drone stabilization or lane assist in automated vehicles.