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, Materials Chemistry, Economics

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 multiple 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 after a project by automating data recovery method from proprietary hardware running C++ in the form of modifying TCP Socket, NodeJS, Redis communication.
  - Modernizing outdated, decade-old **HTML5 + jQuery** app by recreating it with the **Angular 10** framework.

Superheat, Kincardine, Ontario

Web Developer   Jan 2020 – Apr 2020
  - Worked on a team of 4 developers in an **Agile** environment to create features/releases and maintain a web application using **AngularJS** Framework for frontend and Loopback **NodeJS** framework for backend APIs.
  - Created features such as new views for new data coming from the NodeJS backend and video upload functionality to the AngularJS app.
  - Refactored 15-20 modules into components and altered templates to convert and modernize web app from **AngularJS** to **Angular.**
  - Source control and management were done using **Bitbucket** and **Jira.**

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

Custom Tools for Market Analysis,

Python
  - Streamlining my dad's investment workflow by converting his strategies into Python code. Using financial data from Yahoo via Pandas DataReader and Matplotlib to display charts with correct indicators.
  - Portfolio optimization program for reducing portfolio risk while maintaining or improving returns. Takes a list of tickers being considered for long term investment, checks covariance, applies an algorithm to weight how much to buy of each stock. (WIP)

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.