Junaid Jawed Khan

Mechatronic Systems Engineering Student | jjkhan@sfu.ca| 778-714-0792

Education

Jan 2016 - present — **Bachelor of Applied Sciences | Simon Fraser University**
- Mechatronic Systems Engineering

Technical Projects

May 2019 - Aug 2019 — **Lead-Lag Compensator Design**

Control System Design
- Modelled and simulated open-loop & closed-loop step response of a RLC circuit in MATLAB & LTSpice.
- Modelled and simulated step response of a RLC circuit with a PID controller in LTSpice.
- Implementated a Lead-lag compensator for a RLC circuit using Bode and Nyquist plots for the open-loop system.

Aug 2018 - Dec 2018 — **Industrial Assembly System**

PLC Programming
- Studied the control methods used in product assembly and inspection in a manufacturing process.
- Investigated the ports assigned to each sensor and actuator in the ICT4 system to be able to send and recieve signals.
- Programmed the ICT4 system in LabVIEW to ensure assemblies are upto standard.

Nov 2018 - present — **Firmware Developement**

Team Phantom - SFU Formula SAE Electric & SFU Rocketry
- Developed the MIBSPI communication interface between Battery Management System and the Thermistor Expansion Board, to monitor the temperature of the battery cells and send shut down signal to the Vehicle Control Unit incase of overheating.
- Modularized Adafruit GPS library and established UART communication interface between the GPS and TM4C123Gh6PM, to keep track of the rocket.
- Developed the SPI communication between the rocket's on-board computer and Adesto External flash, to send information from the rocket to a ground station, with a RF system.

May 2019 - present — **Web Developement**

Fraser International College
- Developed a mySQL database-driven web-applicaiton with PHP scripting on the server-side, to manage lab's inventory.
- Implemented features include adding and updating inventory, searching the inventory, setting min-max for inventory, and using triggers in mySQL database to place an order for a product that is low in quantity(i.e. below the min-setting).

Sep 2016 - Apr 2018 — **Analog Circuit Design**

Electronics Engineering
- Investigated half and full wave rectifiers to improve comprehension of how an AC source be utilized to create a DC output.
- Analyzed various BJT and MOSFET circuits to comprehend their capacities as controlled current sources.
- Soldered SMDs and through-hole components on a PCB.

Mar 2018 - Jun 2018 — **Power Converter Circuit Design**

Power Electronics
- Simulated, built and tested a Buck Converter circuit to satisfy a design specification.
- Analyzed a Single-Phase and Three-Phase diode rectifier with purely resistive and inductive load.
- Examined a Single-Phase full bridge inverter's operating principle by controlling the switching devices with a square wave and PWM input signal.

Work Experience

Sep 2018 - present — **VolleyballBC**

Facility Attendant
- Provided general information and related customer services assistance for in-person inquiries.
- Processed payments for facility admissions and facility rentals.
- Performed facility attendant duties including minor janitorial and maintenance activities as required by operational needs.

Mar 2018 - present — **Tutor Doctor Vancouver**

Tutor
- Resolved high school Physics and Mathematics conceptual problems by facilitating 1-on-1 sessions.

Awards and Recognitions

Jun 2016 — **Honors Roll Award | Fraser International College, Burnaby BC**

Jun 2014 — **Oryx Award | Sri Lankan School Muscat, Sultanate of Oman**

Engineering Skills

Microsoft Office skills - Excel, Word, Powerpoint, Outlook — Advanced

MySQL Database Management — Intermediate

C Programming Language — Intermediate

C++ Programming Language — Intermediate

Server-Side Scripting - PHP — Intermediate

Design Softwares - SolidWorks, LTspice — Intermediate

MATLAB Scripting — Intermediate

PLC programming - LabVIEW — Intermediate

Knowledge of Sensors and Actuators — Intermediate

Soft Skills

Communication skills — Advanced

Ability to work independently — Advanced

Critical thinking — Advanced

Leadership — Advanced

Creativity — Advanced

Interests

Documentaries

Self-directed learning

Basketball & Billiards

Internet Of Things

Information Technology

Embedded Systems

References