Bilal Aslam Engineer in Training

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SKILLS

- Agile Development
- Rest APIs
- Design Principles
- software design patterns
- User Experience (UX)
- Relational Databases
- Software Development Life Cycle
- Technical Documentation
- Real time system design
- FPGA/Arduino/micro-controllers
- PLC & embedded system programming

PROGRAMMING

C • Node.js • MySQL • Angular.js
Python • Java • C++ • PHP

EDUCATION

RYERSON UNIVERSITY

Bachelor of Mechanical Engineering
Sept 2014 - Apr 2018

COURSEWORK

UNDERGRADUATE

Intelligent Systems
Microprocessor Systems
Robotics
Sensors and instrumentation
Digital Systems
Project Management
Real-time Operating Systems

ONLINE COURSEWORK

Mastering Coding Interview (Andrei Neagoie | status: 60%)

Advanced Javascript Concepts (Udemy| status: In Progress)

RELEVANT EXPERIENCE

SOFTWARE DEVELOPMENT LEAD | PFERA

June 2018 – Present | Kitchener, ON

- Fleshed out a minimal legacy code-base with major enhancements and **spearheaded** deployment to production resulting in the company's **first ever revenue generation**
- **Responsible for the entire life cycle** of the project from architecture design, development, testing, deployment of web and mobile implemented in **Vue.JS** (frontend), **PHP/Laravel** (backend), and **Ionic** (mobile) with a **MySQL** database
- Designing and developing **15+ new features** including user side invoicing, custom forms with user templates, auto-scheduler, complete UI update on web and mobile and setting up **linux** staging server for additional testing purposes
- Implementing core infrastructure to incorporate old user records into Rscript learning models to provide helpful insights and accurate time of foaling and creating horse states to link various types of breeding records for multiple learning models to work collaboratively

MECHATRONICS DESIGNER | FREELANCE/CONTRACT

Sept 2016– May 2018

- Design and develop wide range of mechanical components and automation systems on contract basis
- Involved in product development for numerous automation systems from developing designs to prototyping and testing, which generated **revenue of more than $10k**

PROJECTS

SMART FIRE ALARM | Side Project

April 2018 - May 2018

- Designed a WIFI enabled smoke/CO alarm which relays the occupancy of each room to emergency personnel in event of a fire to **reduce rescue times** by eliminating the need to search rooms using **IOT**
- Designed occupancy detection subsystem capable of working in robust environments with **85% reliability** coded in **C on Arduino and ESP8266**
- Developed and conducted **custom hardware & software tests** to validate system for high reliability

AUTONOMOUS GUIDED VEHICLE | Side Project

Jan 2017 – Dec 2017

- Developed algorithms in **C** to detect and handle obstacles such as color, luminous flux, multiple lines, sound frequencies, objects, and walls utilizing encoders and various sensors to solve complex mazes and navigate through obstacles
- Designed a 3-DOF robotic arm with a cylindrical work envelope using servo motors to grab material securely.

DIGITAL PID CONTROLLER | Research Project

Jan 2018 – Apr 2018

- Designed and implemented a real-time digital anti-windup and basic PID controller to control position of DC motor using **concurrent programming in C**