Dhruv Sharma

Mechatronics Engineering
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SKILLS SUMMARY

- SOFTWARE – C++, C#, Java, solid understanding of Algorithms and Data Structures, IOS Development (Objective C), Android Development, MATLAB, LabVIEW, Visual Basic Applications
- HARDWARE/EMBEDDED SYSTEMS – Robot C to program NXT, Arduino, Data Acquisition Systems
- GRAPHIC AND DESIGN - Skilled in creating engineering drawings using AutoCAD, SolidWorks. Experienced in machining and fabrication
- ACADEMIC STANDING – Rank 1 in Mechatronics Class of 2018 out of 150 students
- Hands on experience working with electrical devices - multimeters, soldering equipment, Oscilloscope

WORK EXPERIENCE

Software Developer, Phoenix Interactive Design Inc., London, ON   September 2014 – Present

- Took part in rigorous fast paced agile object oriented software development process, involving software development in C++, using XML configuration and C# (.NET framework)
- Wrote base classes to be used in VistaATM software product(C++), developed data analysis tool to analyze logs generated during application runtime (C#)
- Wrote unit tests for new functions implemented using Google's Gtest and Gmock framework
- Worked collectively with senior developers on internal company tickets to fix bugs in software (C++, XML)
- Gained experience in development on Microsoft windows platform through test driven development involving testing the software on next generation ATM machines and using various debugging tools

Controls and Hydraulic Systems Intern, Prof Amir Khajepour, University of Waterloo   Jan 2014 – April 2014

- Set up a Data Acquisition System for strain data logging Wrote VBA script to generate corresponding stress values. Installed and calibrated strain gauges using shunt calibration approach.
- Set up Data Acquisition system configuring both hardware and software (wrote software program for data logging using LabVIEW) to record pulses from motor and processed it using VBA to calculate RPM of the motor
- Wrote scripts in MATLAB to plot stresses recorded during fatigue testing of the system and analysed the data,
- Created drawings using SolidWorks and performed machining and fabrication of parts used in Pneumatic Suspension and Pulse Active Steering research projects.

Research Assistant, Prof Amir Khajepour, University of Waterloo   April 2014 – September 2014

- Processed data (produced from different tests performed while research) using VBA and MATLAB scripts, analysed the data – performed different calculations and reported the observations
- Wrote technical reports brushing technical writing and presentation skills

RELEVANT PROJECTS

Implemented:

Game Development in Python: Developed interactive games in Python (SImpleGUI), applied   Sept2014 – Nov 2014
principles of Object Oriented Programming. Developed games like Asteroids, BlackJack, Memory, StopWatch, and more

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IOS Game Development: Sept 2014 – Nov 2014

Alien Invasion: Designed and developed Alien Invasion that aims at saving our mother Earth
from alien invasion by killing aliens invading the Earth.

Flappy Bird Rebirth: Developed a different version with new graphics and varying hardness levels during playtime.

Robot Design Project: Designed and programmed a Lego robot, leading a team of four students,   Sept 2013
capable of autonomously sorting objects based on colour

Currently Working:

ReadOutLoud: IOS app that reads out loud text in an image. So click an image of an article from   Oct 2014 - Present
your phone and it will recite that for you. Using Tesseract OCR library

RELEVANT KNOWLEDGE

Interactive Game Development in Python by Rice University (COURSERA)
- Aimed at teaching art of creating interactive applications using python through weekly lectures, quizzes and mini projects.

Algorithms and Data Structures
- Gained proficiency in structured software design, data structures, abstract data types, recursive algorithms, algorithm analysis and design, sorting and searching, hashing, and problem-solving strategies.
- Practically applied the concepts in labs and in various university projects using C++ programming language

Digital Computation
- Learnt hardware and software organization, developing efficient algorithms for basic scientific computations
- Gained experience programming in C++ for software development and Robot C for programming Lego Robots

Circuits
- Understood the elements of Electromagnetism, AC and DC circuits, Diodes, Transistors
- Experienced in analysing circuits through labs and using electronic instruments: Oscilloscopes, multimeters

EDUCATION

Candidate for Bachelor of Honours Mechatronics Engineering, Co-operative Program, University of Waterloo, Waterloo, ON, September 2013

ACTIVITIES & INTERESTS

Website Manager and Member, Executive body, Engineers in Medicine, Waterloo, Ontario   May 2014 – Present
- Manage club website by updating information, performed search engine optimization using Google Webmaster Tools

Member, University of Waterloo Aerial Robotics Group, Waterloo, Ontario   Sept 2013- Present
- Worked with the controls team to improve the code for controller of the aircraft made by WARG

AWARDS
- First In Class Engineering Scholarship   November 2014
- Deans Honor List Summer 2014 term   September 2014
- Team Spirit Award – Google Games 2014   April 2014
- University of Waterloo President's Scholarship of Distinction   September 2013

References available upon request