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Sanid Singhal

Electrical Engineering Student (3rd Year)

An engineering student aspiring to solve critical and complex engineering problems as a dynamic thinker for growth and prosperity. I have a solid foundation in object oriented programming (Java, C++) with extensive knowledge of data structures and algorithms as well as good experience in application based and web based design. I have successfully completed courses such as Machine Learning by Stanford University, Machine Learning A-Z: Hands on Python and R in Data Science and Deep Learning in Advanced computer vision. I have gained good foundational knowledge of Supervised learning (linear regression, logistic regression algorithms, support vector machines, kernels), Unsupervised learning (clustering, dimensionality reduction, recommender systems) and Deep Learning (artificial neural networks, convolutional neural networks, recurrent neural networks, applications in computer vision and natural language processing) in the machine learning domain including developing programs using Python and MATLAB using associated machine learning libraries. I have also acquired intermediate design skills in Boolean Logic, FPGA, Verilog and ARM assembly language.

EDUCATION

BASc - Electrical Engineering
University of British Columbia
4 of 8 academic terms completed
Expected graduation: May 2021

TECHNICAL SKILLS

Software
Data Structures and Algorithms
OOP (C, C++,Java)
Machine Learning
Deep Learning (NLP, CV, ANN, CNN, RNN)
Reinforced Learning
Python (Sci-kit learn, Pandas, NumPy,Tensorflow, Keras)
HTML, CSS, Javascript, JQuery
Microsoft Azure, Firebase
Flutter, Swift
ARM Assembly Language
MATLAB

Hardware | Firmware
FPGA | Model-Sim | Quartus
Verilog
Arduino

CERTIFICATES/AFILIATIONS

- **Machine Learning by Stanford University on Coursera Certificate <Link>**
- **Machine Learning A-Z: Hands on Python and R in Data Science (Udemy) <Link>**
- **Certification in Lighthouse Labs Web Development <Link>**
- **Certification in Deep Learning: Advanced Computer Vision <Link>**

WORK EXPERIENCE

Assistant Programming Instructor
Western Canada Hunan Association
June - August 2018 — *Calgary, AB*
- Taught basic and advanced Python computer programming language to children between the ages of 12 to 17.

Production Assistant
Amvic Systems Manufacturing
May 2018 — *Calgary, AB*
- Understood and acted upon the manufacturing processes needed to create insulated concrete foams used to build the foundations of homes and structures.

KEY TECHNICAL PROJECTS

Machine Learning | Deep Learning | Data Science Assignments
June-Aug 2019
- Applied Supervised and Unsupervised Learning, Principal Component Analysis and Deep Learning models (CNNs and ANNs) in both Python and MATLAB by completing programming assignments affiliated with Coursera and Udemy courses

Wireless Coin Picking Robot
Apr 2019
- Programmed and developed the entire software framework of an autonomous coin picking robot using MSP430 micro controller and embedded C.
- Implemented features such wireless remote control using Raspberry PI and a camera for coin picking recognition using computer vision (OpenCV in Python).

Hairable project, nwHacks 2019
Jan 2019
- Designed an app which recommends hairstyles for people based on facial features. Used Swift as the front end development tool and Microsoft Azure for the machine learning software logic.

AEye project, XdHacks 2019
Jan 2019
- Designed an app designed to give descriptive information to a blind person's surroundings with an integrated voice UI. Used Flutter and Firebase for developing the application.

Lunar Resource Extraction project, UBC Mars Colony Design Team
Jan 2019 to present
- Working as an Electrical Engineer team member focusing on resource extraction in space of Helium-3 for Nuclear Fusion. Currently working on the preliminary design of robotic probe. Also developed main website for the project.

LCD Alarm Clock Micro-Controller
Jan 2019
- Used Assembly language (Atmel AT89LP51RC2 processor) to program a micro-controller system connected to a LCD screen and LED lights, and a speaker. Also implemented an alarm clock using interrupts (ISA).

CPU Design(RISC machine) project
Nov 2018
- Created a functional CPU containing multiple 8 bit registers and an arithmetic logic unit using tools such as RISC instruction set.
- Used Verilog, Quartus and ModelSim as the design tools for the application. Tested on the Intel De1- Soc board.

Finstagram Web Application
June 2018
- Project affiliated with Lighthouse Labs involving developing a spinoff demo of Instagram (HTML, CSS, Ruby,Sinatra)