Gurshan Deol

4A Mechanical Engineering | http://shawn-deol.github.io
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EDUCATION

UNIVERSITY OF WATERLOO
BASc in Mechanical Engineering
Expected April 2018 | Waterloo, ON
Option in Engineering Biomechanics

LINKS

LinkedIn:// **gurshandeol**
GrabCAD:// **gurshan.deol-1**
Github:// **shawn-deol**
Devpost:// **gurshan**

SKILLS

DESIGN
SolidWorks • NX • Fusion 360
AutoCAD • Inventor • OpenSCAD

MANUFACTURING
Tolerance Analysis • DFM/DFA
Machining • 3D Printing

SOFTWARE
MATLAB • LabVIEW • Python
C++ • GCODE • SQL • C

ANALYSIS
ANSYS • SolidWorks Simulation
Adams

HARDWARE
Arduino • Raspberry Pi • Soldering

AWARDS

HACK THE NORTH 2016
$ 400 PagerDuty sponsor prize for best use of pagerduty API

HACKADAY PRIZE 2016
$ 1000 prize for exoskeleton grip enhancement device

DELTAHACKS 2015
$ 100 Sponsor prize for best use of Estimote Bluetooth Beacons

EXPERIENCE

FORMLABS | Special Projects Group
Jan - April 2017 | Somerville, MA

- Designed build platforms for next generation Formlabs products with a high level of project ownership. Responsible for concept generation, prototyping, component sourcing, testing & validation and DFM/DFA
- Managed project documentation, conducted material compatibility testing, tolerance analysis and cost estimation on various prototype systems
- Designed proof of concept features for experimental printing systems. Wrote python scripts for validation and compiled user data with SQL to determine design specifications

VOXEL8 | Hardware Intern
May - Aug 2016 | Somerville, MA

- Designed and documented manufacturing and assembly processes for various components of the Voxel8 Printer
- Developed testing methodology, maintained logs and wrote python scripts to check for proper assembly and leaking of pneumatic components
- Created proof of concept systems such as pneumatic cleaning for material deposition and pneumatic dispensing for use in CNC machines

OPHARDT HYGIENE | Engineering Student
Sep - Dec 2015 | Beamsville, ON

- Implemented a liquid level measuring system for overflowing bioreactors using ported pressure sensors and an Arduino Uno
- Created plastic and sheet metal fixtures to conduct life time testing of pumps
- Performed efficiency testing on DC motors to determine best supplier and composed BOMs for project assemblies
- Wrote technical documents on liquid level sensing

VASPAC | Engineering Intern
Jan - April 2015 | Beamsville, ON

- Wrote VB.NET scripts to display PLC sensor data
- Designed the operating console U/I in VB.NET, RSView32 and Archestra
- Translated physical electrical and mechanical drawings into electronic versions
- Ran PLC simulations to test and validate design changes

PROJECTS

HANDHELD GAMING DEVICE
- Created a portable Raspberry Pi gaming console from spare parts
- Designed, modeled and toleranced all components in SolidWorks
- Used a micro controller and a Raspberry Pi to allow user input

DELTA 3D PRINTER
- Designed and constructed a delta robot style 3D printer
- Created novel roller carriages and a magnetic effector head

3D PRINTED HUMAN INPUT DEVICE
- Designed a Human Input Device using the Voxel8 printer
- Printed Ortho-Planar springs close circuits created from silver ink
- Control is done with an Arduino Micro programmed as a HID