AISHWARY JAGETIA

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EDUCATION

Worcester Polytechnic Institute (WPI), Worcester, MA, USA **August 2017 - May 2019**
Master of Science in Robotics Engineering, CGPA: 4.00/4.00 (expected)

Symbiosis International University (SIU), Pune, India **June 2013 - May 2017**
Bachelor of Technology in Mechanical Engineering, CGPA 3.747/4.00

TFI LEaRN Semester Exchange (Highly Selective) **August 2016 - December 2016**
Nanyang Technological University (NTU), Singapore

SKILLS AND CERTIFICATION

Programming languages	Python, MATLAB, Simulink, C++, Buzz, html
AI Frameworks	TensorFlow, Keras, MXNet, Gluon, MATLAB, Caffe, Theano, ABB Robot Studio, ARGoS
Design Software	Pro/E, PTC Creo, AUTOCAD, CATIA, Pro/E, Solidworks, ANSYS, NX Siemens, Sketch-up
Computer Skills	Cura, Assembly Programming System, Standard Time Data System, Arduino, Microsoft Office
Relevant Courses	Foundation of Robotics, Synergy of Human and Robotic System, Deep Learning for Adv Robots, Robot Control, Robot Dynamics, Swarm Intelligence

EXPERIENCE

Neurala, Inc., Boston, USA **May 2018 – December 2018**
Research Engineer | Internship

- Responsible for implementing dataset creation, transfer learning, training neural networks and device testing for tasks such as semantic/instance segmentation, object detection, and video segmentation using TensorFlow, Keras, MXNet and Caffe.
- Deployed semantic segmentation model in specialized embedded hardware with compression techniques as well as optimizing the network to run efficiently on edge devices for the World's leading non-US based mobile company.
- Developing novel methods and architectures to improve the quality of image and video processing for scientific development of customer facing technology demos and contractual deliveries.

General Motors India Pvt. Ltd, Pune, India **December 2015 - June 2016**
Project Trainee | Internship

- Improved productivity by introducing 13 industrial robots and line balancing.
- Improved more than 120 Standard Operation Sheet based on time study using STDS.
- Trained and implemented Assembly Processing System (APS) Software.
- Improved Hours Per Unit (HPU) with an increment in utilization percentage from 79% to 90%, value-added work from 59% to 62% and decrement in over speeding from 25% to 11%.

PROJECTS

Expectation Algorithm (ExA): A Socio-inspired Optimization Methodology, SIU **January 2017 - May 2017**

- Developed a new socio inspired Expectation Algorithm (ExA), an unconstrained optimization technique.
- Expectation Algorithm was validated by 50 benchmark problems and it outperformed existing algorithms (PSO, CMAES, ABC, JDE, CLPSO, and IA) resulted by Wilcoxon Signed Test.

Predicting Grade of Road for Autonomous Vehicles Using Supervised Deep Learning, WPI **August 2017 - December 2017**

- Led the project, with successful implementation of the model in real time grade evaluation.
- Developed a deep convolutional neural network architecture using Keras with TensorFlow backend, to train the labeled dataset of Inertial measurement unit (IMU) and Global positioning system (GPS) readings.

Design of a low-cost robotic system to aid in the rehabilitation of stroke patients, WPI **August 2017 – December 2017**

- Led Mechanical work stream of Haptic device, worked in CAD modeling, 3D printing and Hardware systems.
- Designed a haptic device with 6-DOF system along with the implementation of Dynamic Motion Primitives (DMP), Motion Capture (MO-CAP) system and newly developed rehabilitation game.

Robotic Control of a Surgical Laser Waveguide using ABB Robot, AIM Lab, WPI **January 2018 – April 2018**

- Control of the laser position, with the development of motion primitives for laser scanning and focus adjustment on tissue.
- Simulation on ABB Robot Studio and Hardware implementation using GUI-MoveIt-ROS communication channel.

Occlusion-Based Cooperative Transport with a Swarm of Mobile Robots, NEST Lab, WPI **March 2018 – April 2018**

- Proposed and simulated a method to overcome concavity in the objects by concave filling using mobile robots (Khepera IV).
- Implemented an occlusion based collective transport using swarm of mobile robots (Khepera IV) in a decentralized manner.

Adaptive Trajectory Control for a Robotics Arm Subject to Varying Load, WPI **March 2018 – April 2018**

- Examined two advanced Adaptive Control methods of a manipulator robot carrying a time varying payload.
- Compared both the methods with detailed analysis and various experimentation, discussing of pros and cons of each.